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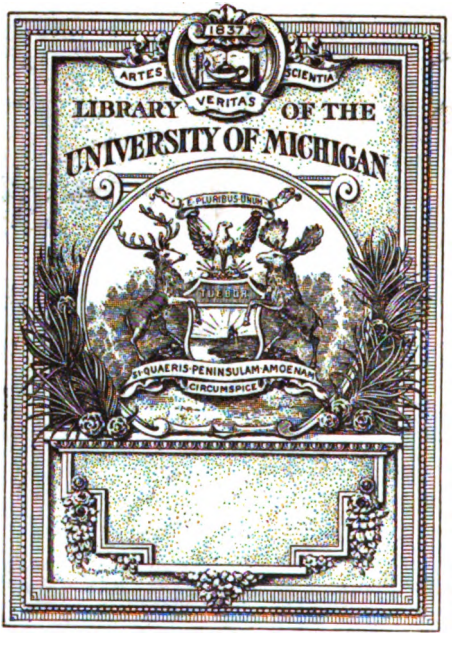

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TRANSACTIONS

OF THE

MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA.

THE REPORT OF THE STATE BOARD OF HEALTH.

THIRTY-SIXTH ANNUAL SESSION—1884.

Selma, April 8th-12th.

MONTGOMERY, ALA.:
W. D. BROWN & CO., STEAM PRINTERS AND BOOK-BINDERS.
1884.

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THE MINUTES OF THE PROCEEDINGS

OF THE

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

198109.

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PREFACE.

Your Committee of Publication, in presenting this volume of the Transactions for 1884—being the xxxvi instead of the xv, as published last year—earnestly hope it may prove acceptable to members of the Association, both as to contents, finish, and arrangements.

T. A. MEANS, M. D.,
BENJ. JAMES BALDWIN, M. D.,
J. S. WEATHERLY, M. D.,
Committee of Publication.

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THE MINUTES OF THE PROCEEDINGS.

SESSION OF 1884.

THE PROCEEDINGS OF THE FIRST DAY.

TUESDAY, APRIL 8.

The Association assembled in Waverly Hall at 10 o'oclock A. M., April 8th.

The following Counsellors and Delegates appeared and registered:

GRAND SENIOR COUNSELLORS.

PETER BRYCE, Tuskaloosa; JEROME COCHRAN, Mobile; JAMES MYERS GODFREY, Sumterville, Sumter County; WALTER CLARK JACKSON, Montgomery; ROBERT DANDRIDGE JACKSON, Summerville, Dallas County; MORTIMER HARVEY JORDAN, Birmingham, Jefferson County; GEORGE AUGUSTUS KETCHUM, Mobile; ADAM ALEXANDER MCKITTRICK, Evergreen, Conecuh County; RICHARD FRASER MICHEL, Montgomery; BENJAMIN HOGAN RIGGS, Selma, Dallas County; LUCIUS ERNEST STARR, Camden, Wilcox County; JOB SOBIESKI WEATHERLY, Montgomery—12.

SENIOR COUNSELLORS.

MILTON COLUMBUS BALDRIDGE, Huntsville, Madison County; BENJAMIN FRANKLIN CROSS, Decatur, Morgan County; JOHN PERKINS FURNISS, Selma, Dallas County; VIVIAN PENDLETON GAINES, Mount Sterling, Choctaw County; DANIEL STILES HOPPING, Letohatchie, Lowndes County; WILLIAM HENRY JOHNSTON, Selma, Dallas County; THOMAS ALEXANDER MEANS, Montgomery, Montgomery County; JOHN ALEXANDER MCKINNON, Selma, Dallas County; WILLIAM AUGUSTUS MITCHELL, Eufaula, Barbour County; CLIFFORD DANIEL PARKE, Selma, Dallas County; FRANCIS MARION PETERSON, Greensboro, Hale County; WILLIAM CRAWFORD PHILLIPS, Selma, Dallas County; WILLIAM THOMAS PURNELL, Prairie Bluff, Wilcox County; JOHN ALBERT PRITCHETT, Hayneville, Lowndes County; WILLIAM HENRY SANDERS, Mobile, Mobile County; SAMUEL DIBBLE SEELYE, Montgomery, Montgomery County—16.

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JUNIOR COUNNELLORS.

DUDLEY SAMUEL BROCKWAY, Coatopa, Sumter County; ANDREW BOWIE, Benton, Lowndes County; GEORGE WASHINGTON BROWN, Pratt Mines, Jefferson County; PUGH H. BROWN, Troy, Pike County; HUGH WILLIAM CAFFEY, Hayneville, Lowndes County; DAVIS ELMORE CASON, Ashville, St. Clair County; WILLIAM CYPRIAN CROSS, Centreville, Bibb County; WILDS SCOTT DUBOSE, Columbiana, Shelby County; JOSEPH ANDERSON GOODWIN, Jasper, Walker County; JAMES ADRIAN GOGGANS, Alexander City, Tallapoosa County; GUSTAVUS HENDRICK, Brundige, Pike County; JAMES FOUNTAIN HEUSTIS, Mobile; SIMON AUGUSTUS HOLT, Eufaula, Barbour County; CAPERS CAPEHART JONES, Snow Hill, Wilcox County; WILLIAM THOMAS MCALLISTER, Marion, Perry County; THADDEUS LINDLEY ROBERTSON, Oxford, Calhoun County; EDWARD HENRY SHOLL, Birmingham, Jefferson County; SAMUEL PARISH SMITH, Prattville, Autauga County; ANDREW MCADAMS STOVALL, Jasper, Walker County; FRANK TIPTON, Selma, Dallas County; HENRY BASCOM WARD, Cuba, Sumter County; WOOTEN MOORE WILKERSON, Montgomery—22.

DELEGATES.

Autauga County Medical Society.—THOMAS G. HOWARD, Mulberry.

Barbour County Medical Society.—ALBERT GOODWIN, Eufaula.

Bibb County Medical Society.—J. M. WILLIAMS, River Bend.

Blount County Medical Society.—F. G. DONALD, Murphrees Valley.

Butler County Medical Society.—J. J. MCCANE, Greenville.

Calhoun County Medical Society.—R. P. HUGER, Anniston.

Chambers County Medical Society.—B. J. FOSTER, La Fayette.

Choctaw County Medical Society.—A. B. GILMER, Butler.

Cleburne County Medical Society.—O. W. SHEPARD, Edwardsville; WILSON M. LIGON, Oakfuskee.

Colbert County Medical Society.—CHARLES W. WILLIAMS, Allsborough.

Dallas County Medical Society.—JOSEPH A. GROVES, Brown's; GOLDSBY KING, Selma.

Etowah County Medical Society.—J. H. WOOD, Attalla.

Fayette County Medical Society.—R. W. WOODS, Garfield.

Greene County Medical Society.—J. C. CARSON, Burton Hill; THOMAS W. PIERCE, Knoxville.

Hale County Medical Society.—J. HUGGINS, Newberne; E. B. WARD, Greensboro.

Henry County Medical Society.—C. T. MORRIS, Lawrenceville.

Jackson County Medical Society.—G. W. FOSTER, Stevenson; B. B. SMITH, Larkinsville.

Jefferson County Medical Sobiety.—E. P. Riggs, CHARLES WHELAN, Birmingham.

Lamar County Medical Society.—J. O. KENNEDY, Kennedy.

Lowndes County Medical Society.—SHIBLY BRAGG, Hayneville; P. M. BRUNER, Bragg's Store.

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Macon County Medical Society.—H. A. ALEXANDER, Tuskegee; W. B. ARBERY, Notasulga.

Madison County Medical Society.—J. S. MACON, Huntsville; D. H. McCLAIN, Maysville.

Marengo County Medical Society.—HENRY C. DUGGAS, Van Dorn.

Mobile County Medical Society.—H. T. INGE; R. G. SOUTHALL, Jr., Mobile.

Monroe County Medical Society.—F. S. DAILEY, Kempville.

Montgomery.—B. J. BALDWIN; LEROY SIMPSON, Montgomery.

Morgan County Medical Society.—O. B. CARTWIGHT, Decatur; H. S. WATKINS, Flint Station.

Perry County Medical Society.—JOHN M. LANGHORN, Uniontown.

Pike County Medical Society.—W. S. ELAND, Henderson.

Randolph County Medical Society.—POWHATAN G. TRENT, Rock Mills.

Shelby County Medical Society.—J. H. GREEN, Calera; WILLIAM B. MERIDITH, Montevallo.

St. Clair County Medical Society.—ROBERT S. FOSTER, Branchville.

Sumter County Medical Society.—JAMES G. FOSTER, Livingston; JOHN B. HARVLY, Belmont.

Tallapoosa County Medical Society.—ABNER J. NOLEN, New Site.

Tuskaloosa County Medical Society.—JAMES T. SEARCY, Tuskaloosa.

Walker County Medical Society.—A. L. HENDON, Holly Grove.

Wilcox County Medical Society.—A. C. MATHESON, Camden.

Thirty-seven counties represented by fifty-one Delegates.

The counties of Bibb, Chilton, Choctaw, Crenshaw, Lawrence and Pickens, failed both in representation and reports.

The counties of Bibb, Chilton, Choctaw and Pickens, sent in their reports after the adjournment of Session. Crenshaw and Lawrence, up to going to press, have failed altogether.

The following Health Officers were present:

Baldridge, Milton C., Huntsville, Madison County Medical Society.
Baldwin, Benj. James, Montgomery, Montgomery County Medical Society.
Bragg, Shirley, Hayneville, Lowndes County Medical Society.
Cason, Davis E., Ashville, St. Clair County Medical Society.
Cross, Benj. F., Decatur, Morgan County Medical Society.
Goodwin, Albert, Eufaula, Barbour County Medical Society.
Goggans, James A., Alexander City, Tallapoosa County Medical Society.
Gravlee, William L., Rising Sun, Walker County Medical Society.
Hilliard, Charles W., Troy, Pike County Medical Society.
King, Goldsby, Selma, Dallas County Medical Society.
Meredith, William B., Montevallo, Shelby County Medical Society.
Neil, William A., Heflin, Cleburne county.
Smith, Samuel P., Prattville, Autauga County Medical Society.
Thigpen, Job, Greenville, Butler County Medical Society.
Winn, Henry J., Birmingham, Jefferson County Medical Society—15.

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The following Physicians were present and registered as visitors :

Adams, Benj. C., Liberty Hill, Dallas county.
Alston, J. L., Orrville, Dallas county.
Clarke, Courtney J., Selma, Dallas county.
Crum, L. E., Dumas' Store, Wilcox county.
Davis, John D. S., Birmingham, Jefferson county.
Donald, James M., Harrall's, Dallas county.
Gee, James T., Burnsville, Dallas county.
Haddox, William T., Pine Hill, Wilcox county.
Hudson, Henry S., Summerfield, Dallas county.
Hughes, Brice M., Birmingham, Jefferson county.
Jones, D. D., Snow Hill, Wilcox county.
McDade, George Wilson, Montgomery, Montgomery county.
McKinnon, K., Pleasant Hill, Dallas county.
Rosser, Henry N., Birmingham, Jefferson county.
Sanders, Henry J. Clinton, Greene county.
Sherill, L. J., Peeple's Station, Autauga county.
Winnemore, Samuel E., Benton, Lowndes county—17.

Grand Senior Counsellors—12; Senior Counsellors—16; Junior Counsellors—22; Delegates—51; Health Officers—15; Visiting Physicians—17; Total—131.

Drs. Peter Bryce, of Tuskaloosa; George A. Ketchum, of Mobile; R. Fraser Michel, of Montgomery; Clifford D. Parke, of Selma; Job S. Weatherly, of Montgomery, Ex-Presidents of the Association, were present and occupied seats on the rostrum.

There were present of the Board of Censors and Committee of Public Health :

Peter Bryce, of Tuskaloosa; Jerome Cochran, (Senior Censor,) of Mobile; George A. Ketchum, of Mobile; William H. Johnston, of Selma; Benjamin H. Riggs, of Selma; William Henry Sanders, of Mobile; Samuel D. Seelye, of Montgomery; Job S. Weatherly, of Montgomery.

The Association was called to order by the President, Dr. Mortimer H. Jordan, of Birmingham, at 12 o'clock, noon.

The exercises were opened with prayer by the Rev. T. F. Mangum of the Methodist Episcopal church.

After which, Dr. Frank Tipton, President of the Dallas County Medical Society, in behalf of its membership and of the Committee of Arrangements, delivered the following—

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ADDRESS OF WELCOME.

Gentlemen of the Medical Association of the State of Alabama:

On behalf the Selma Medical Society it becomes my pleasing privilege to welcome you to our city and to extend to you the cordial hospitalities and fervent greeting which every good and loyal citizen echoes in his heart to-day for the worthy sons of a noble calling. You are gathered here in council as their faithful friends and zealous guardians. You move, as it were, between the living and the dead, and standing steadfastly upon the watch-towers of science, guard with eternal vigilance, sustain with cheering words of hope and encouragement, and preserve with well-earned skill, their lives, their hopes and their fortunes.

We welcome you to our city as the medical representatives of this great commonwealth; welcome you from every quarter—from the rock-ribbed mountains which guard our northern borders from the chilling blasts of winter, to the sunny waves of the golden gulf whose snowy crests in their sportive gambols cast their sparkling kisses to the lordly magnolias whose gaudy foliage fringes our southern shores.

As I gaze upon the many happy and familiar faces before me to-day, my whole heart swells with pride, and my whole soul is on fire with joy and enthusiasm. Thank God that I can claim a kindred with you, and thrice thank God that so many hearts and hands, still warm with life and loyalty, are here to join again, and pledge anew the tender vows of love and fidelity.

Yet, gentlemen, in scanning the dear and well remembered faces before me to-day, I can but note the absent ones. Paul Delacy Baker inspires us no more with his genial presence, charms us no more with his cordial grasp of the hand and hearty greeting. In the golden summer of his fruitful life, in the full maturity of his noble traits, our brother has departed, his eloquent voice is hushed. The silver tongue of the orator-physician is mute and motionless forever.

Edmund Fournier sleeps the sleep of the just. Radiant with the glowing hopes of a brilliant manhood, ere he reached the zenith of his promise, he sank to rise no more. And, gentlemen, I can not omit to voice the sad notes of mourning that thrill our land throughout its length and breadth to-day. The eye grows dim and the bosom heaves as I pronounce with bated breath, one illustrious name. James Marion Sims is no more. The plume of the gallant champion of the feeble, the helpless and the hopeless, is laid low. He has fought his last fight. Flashing with the dazzling splendor of a meteor athwart the firmament of science, greeted with acclamations and mourned with affection, he has sunk into the dreamless sleep of eternity. Oh! most eloquent, mighty and cruel death, whom none could surpass thou hast persuaded; whom all the world hath honored thou only hast cast out and forgotten. The gallant chieftain who has turned your serried hosts in flight ten thousand times has sunk at length, a victim to their ruthless fury, but the memory of his mighty deeds, grand and imperishable, will

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shine forever upon the towers of science, as a beacon light, when stars and suns are sunk in night.

Gentlemen, in the name of our fair women, who will delight to do you honor; in the name of every true and loyal citizen who greets you with enthusiasm, and in the name of the Selma Medical Society, I bid you welcome, thrice welcome, to our hearts and homes.

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THE ANNUAL MESSAGE OF THE PRESIDENT,

MORTIMER H. JORDAN, M. D., OF BIRMINGHAM,

Grand Senior Counsellor and formerly member of the Board of Censors and Committee of Public Health.

Gentlemen of the Medical Association of the State of Alabama:

We have assembled to-day in annual session, to discuss new problems, to interchange opinions, and to lay new offerings at the shrine of our beloved profession. In the outset, allow me to congratulate you upon being permitted to meet again in the fair little city of Selma—a city made memorable by the elegance, refinement and culture of her women, the intelligence and chivalry of her men, and the open-handed hospitality of her citizens. Let me tender my sincere thanks for electing me to the presidency of this Association, which is the proudest distinction that the medical profession of this State has in its power to bestow. I am proud of the position, not alone for the honors with which it comes crowned from those who have preceded me in it, but because it gratifies that loyal ambition which I have ever had, to win distinction in the noble profession to which I have consecrated the work of my life.

This association is composed of the ablest minds, and the truest representative medical men from the different counties in the State, harmoniously engaged in the promotion of a common cause. Such an organized effort, we feel encouraged to believe, will result in great good to our State, and secure to our patrons healthier, happier, and longer lives. While it is encouraging to meet under such auspicious circumstances, there are other circumstances which call for our sympathy and condolence.

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Death has again invaded our ranks, and removed two of our most distinguished counsellors and steadfast friends. Paul DeLacy Baker and Edmund H. Fournier are both absent—they have fallen in the great battle of life and gone to their reward. It is peculiarly sad, when we reflect that both of these gentlemen were appointed regular reporters, and were engaged in preparing papers in the interest of medical science, and for the entertainment of this session of the State Association. Paul DeLacy Baker was of delicate build and feeble constitution, yet, he contributed all the powers of a well trained intellect, and a ripe experience, combined with peculiar eloquence when engaged in debate, to the advancement of the best interests of scientific medicine throughout the length and breadth of our beloved State. He leaves behind him a brilliant record in the hearts of his "clientele," and in the memory of his professional brethren throughout the entire State. As his physical suffering was great during a long and active professional life, we trust that he has gone to a happy reward, where his spirit will ever in harmony dwell, nestled in the bosom of his Father, God.

Edmund H. Fournier was born in the little village of Demopolis in the year 1832; he had not reached the zenith of his fame. His guiding star was duty, and with unwavering devotion he followed it wherever it lead him regardless of consequences. No more will his light shine in our midst, or longer illumine the paths of science at these annual gatherings of our association. Alas, my brethren, the manly form of our steadfast friend and beloved brother, Edmund H. Fournier, lies prostrate in death. No man has left a brighter record in his professional character, or a more enduring place in the affections of his people than has our departed brother.

Possessed by nature of an intellect as "trenchant and polished as a Damascus blade," with a mind well stored with practical knowledge subservient to his will, with a heart that throbbed to pity's call whenever heard, artless

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and as guileless as a child, he fell in the fullness of his strength in the line of his profession, but with his armor untarnished, and with an implicit conviction of his reward hereafter, for duty faithfully performed whilst here on earth. But we forbear further comment on the character and life of this almost perfect man, as fitting eulogies have already been paid him from the Altar, the press and the fireside. Truthfully, then, may it be said of him, that his life was a shining example of the upright man and model physician, and his death that of the humble and perfect christian. Peace to his ashes.

Whilst we are thinking over these sad things, we are reminded that J. Marion Sims, who laid the foundation of his great work within the borders of this State, has ceased his earthly career. It was in this State that he made his first great discoveries, that will cause his name to live in the coming ages, and be honored all over the habitable globe. The deeds and achievements of Sims are like the widening waves of the inviolate sea—they will move on, and on, and on until they reach the ultimate shores of time, and be appreciated and utilized so long as science and civilization shall live. Let us honor and cherish the memory of Sims, for his invention of the Sims Speculum and the silver wire Suture, was the illumining dawn of a bright era in gynecological surgery, which has lessened the suffering, and brought health and happiness to thousands of the fairest and purest of our race. He is the last of the great triumvirate—Recamier—Simpson—Sims—who, though separated by time and distance, yet, jointly, won the beneficent domain occupied by modern gynecology. Though the last, he was not the least of the three.

And now, gentlemen, in approaching the duties which the constitution has imposed upon me, that of preparing an "annual message, devoted to the interests, objects and business of the Association," I am painfully aware of my inability to prepare one that will be of much value to the Association, or of much interest to the medical profession

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As my predecessors in office have discussed gracefully and conclusively most of the points contemplated by this provision of the constitution, I have decided to confine my remarks, in a great measure, to the "Duties and Powers of Local Boards of Health." There is no subject of so great importance to the present advanced stage of civilization as that of public health. "As a science it may be said to consist in the study of the avoidable causes of disease and death; their removal, extent, cost, and influence on morality and human progress." The establishment of an efficient central or State Board of Health, with county boards, is imperatively necessary, before any decided steps can be taken towards the suppression of sanitary nuisances, and the regulation of insanitary occupations, in the different counties of the State.

To those who think only of honor and profit it can be easily demonstrated that no more undesirable position can ever be devised for a physician than to make him a member of a local board of health. He is expected to procure sanitary books and appliances, oftentimes at his own expense, to enable him to devise means to diminish sickness by the very existence of which he earns a support for himself and family. He receives no other compensation than the ill will and abuse of those whose prejudices and pecuniary interests are disturbed by his efforts to discharge his duty and the complaints and jealousies of his professional brethren, with whose patients he must often interfere. Under this state of facts it is not strange that the central health departments, both in this country and Europe, have found their greatest practical difficulty to be in securing efficient local workers; but it would rather seem remarkable that physicians have been found who would accept office of this kind at all. I venture to assert that it could be done in no other profession but ours, and this subject is brought up here for the purpose of urging the profession of Alabama to earnestly engage in the work, for the State Board is ready to admit that it is utterly dependent at this point.

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The Auditor could as well collect the revenues from the various counties of this State without the aid of subordinate collectors as the State Board of Health could manage the sanitary matters of this commonwealth without the assistance and coöperation of an efficient local board in each.

In fact, the State Board was largely designed by the law under which it acts as an agent for the organization and stimulation of local boards, and could be dispensed with, or used only as a centre of communication, if a model board existed in each county and city. That this ideal condition will be realized in this State for many years to come will hardly be expected by those who have made themselves familiar with the state of public and professional opinion on the subject; but the gradual improvement from small beginnings, and against strong opposition in some of the counties, leads those interested in our sanitary work to hope that, notwithstanding all the disadvantages under which we have labored, and still labor, a work may yet be accomplished, which will not only reflect credit on the profession, but result in great saving to the State by diminishing sickness and lessening the death rate. Much has been said, and will be said, about the need of new legislation and increased powers, but the difficulty in this State so far has been that the laws already in existence have not been enforced, and the powers already granted have not been exercised. In some counties, it is true, during the past winter and spring especially, excellent work has been done in stamping out small-pox and abating nuisances, but in many even the formality of organizing the boards has not been gone through with, and nothing whatever has been attempted. Under our present laws the powers of health boards in making and enforcing regulations for the public health and safety are practically unlimited, being almost as ample as the legislature can confer; their authority in some respects being greater than that of any other body known to the law.

In the presence of epidemic and contagious diseases, they may enter any dwelling, building, vessel or vehicle by force,

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if need be; may restrain the liberty of citizens and destroy their property; in a word, may enforce any regulation which may be necessary to prevent the spread of disease and secure the public safety. They may declare and maintain quarantine between counties, or between certain districts in the county, isolate persons infected with contagious diseases, or temporarily remove persons from infected localities. Any nuisance, source of filth, or cause of sickness found on either public or private property, must be abated by the owner on order of the board; and if he refuses to do so, the board may have it removed at his expense, and prosecute him for a disobedience of its mandates, each day's continuance after receiving the order being a separate offense. They have authority to make sanitary surveys, regulate vaccination, the ventilation of schools, jails, and other public buildings, and even have control over the interment of the dead. From these enumerated duties, it will be readily seen that the county boards not only possess large powers, but that they also have imposed upon them grave responsibilities. Upon their prompt, intelligent and efficient action, will often times depend the safety of an entire community. A single case of small-pox, scarlet fever, or measles may, if attended to in time, be so effectually isolated as to involve no danger to others, while a little neglect may allow the seeds of pestilence to germinate which might desolate a community or district. What has been said of county boards may be taken as substantially true of town and city organizations. Of course the dangers are increased in great centres of population, where dwellings, barns, out-houses, wells, cess-pools, sewers and manufactories are crowded upon a small territory; where crowds of people are continually mingling on the streets and in churches and places of amusement; and with the greater dangers come increased responsibilities to the guardians of the public health, but the duties differ in degree rather than in kind.

Cleanliness, pure air, sunlight, dry soil, and good water

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are among the precautions against the ordinary forms of disease, and these, with isolation, disinfection, and eternal vigilance, are the weapons to be used against those of the epidemic and contagious variety. In city and country alike, the importance of little things must not be overlooked.

One defective sewer may desolate a block of houses. An accumulation of filth at one point may fill the air with miasms, or the poison may percolate through the soil into neighboring wells and springs and sow the seeds of disease and death broadcast through a community. The better to carry out these objects, every board of health should adopt a code of sanitary regulations, and publish, republish and explain them, until every citizen under their jurisdiction should not only become familiar with the language, but understand their purpose. The daily press, the pulpit, and every other legitimate means should be used to inform the public, and to impress them, that sanitation is a benevolent work of our profession, undertaken solely for the general good. When this point is gained the balance will be easy.

Just as soon as people can be made to understand that it is essential to the protection and well being of society that this work be carried on, will hearty coöperation, sympathy, and last of all, money, reward those who have had faith to work. When the public can be made to comprehend the importance of the early detection and isolation of cases of contagious disease, the intelligent portion of the community will no more think of endangering their neighbors by failing to give the notice now required by law, than by any other reckless conduct. This is not conjecture, nor irrational one-sided reasoning, but is founded as well on the experience of other nations, as on that of the older health boards among our own people. The code adopted by each board should embrace the following points and such others as the peculiarities of their locality seem to require. To me it seems that the following will be sufficiently full and ample to embrace all that would be necessary for any locality:

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1. They should provide for a sanitary survey of the city, village or county, with reference to the drainage, and water supply, the number of inhabitants, the accumulation of filth and the disposal of excreta and garbage.

2. For the cleaning of streets and alleys.

3. For an efficient system of sewerage, with occasional inspections.

4. For the regulation and inspection of markets.

5. For the inspection of lodging houses, hotels, and public buildings, with special reference to the condition of cellars, drains, water supply, and ventilation.

6. For vaccination and revaccination.

7. For preventing the spread of contagious diseases.

8. For regulating when and by whom notice should be given of nuisances, and other causes of danger to the public health.

9. For regulating the interment of the dead.

In all that is written for the public in regard to sanitary matters, too much stress cannot be laid on the fact that the greatest danger to the public health and consequent high mortality come not from epidemics but from the ordinary forms of disease. A few cases of small pox will cause a great scare; a hundred cases of yellow fever will destroy the commerce of a city or State, and a thousand cases of cholera will paralyze the business of our whole country: but ten times as many equally good people may perish from our everyday diseases without causing a ripple. Authentic statistics show that more people die in this country every year from consumption than have died from small pox in a century; that more of our people die every year from our ordinary forms of diarrhœa and dysentery than have ever died from cholera; and that more people die every year from our ordinary miasmatic diseases than have died from yellow fever in this country since Columbus discovered America.

Prof. Packard, in his address before the State Medical Association of Maine in the year 1879, says: There are cer-

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tain truths which should be presented to the people, certain facts which they should know, and they expect to hear them from the Profession. If we can fulfill these requirements as becomes educators and advisors, we can obtain a hold on a community which we can accomplish in no other way. Nothing will sooner convince the people of our usefulness than by making ourselves useful to them. Nothing will conduce more towards gaining public respect and confidence than proving ourselves capable instructors and counsellors. It is apparent at a glance that local boards of health can subserve the interests of the people in their respective counties in no better way than by enlightening them on the most approved plans of protecting themselves against the prevailing diseases characteristic of their climate, soil and locality. No fact has been more thoroughly established than that the freer the soil is from perpetual moisture, the fewer are the number of cases, and the smaller the mortality from tubercular consumption. You need only to cast your eye over the elaborate atlas of medical geography by Lombard, to see how large a part excess of moisture plays in the geographical distribution of pulmonary phthisis.

All along the sea coast are traced the deeply shaded lines, whilst in the dry and elevated interior regions the mortality has disappeared.

By close investigation and research Dr. Bowditch, of Boston, the eminent physician and sanitarian, has established the fact for Massachusetts, and which has been confirmed on a larger scale for England, that there is a constant ratio between the number of cases of consumption and the amount of water—rainfall, and collections of water in streams, ponds and lakes. In the Northern and middle States statistics show that tubercular phthisis carries off about twenty per cent. of the population. In the Southern States our statistics are too meagre to be relied on; but in the city of New Orleans I learn from good authority that thirty per cent. of the number of deaths are due to consumption of the

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lungs, and in the city of Mobile over twenty per cent. of the number of deaths are due to the same cause. It has been clearly proven in many cities of Europe and in several in this country, that a thorough system of drainage lessens the mortality by phthisis pulmonalis fully fifteen per cent. Many other diseases are also lessened in their danger and death rate by good drainage. In this connection the largest number of deaths from malarial poison and the increased fatality that it gives to other diseases, is most deserving of our earnest attention. It is a well established fact that good drainage of the ponds, sloughs and marshes will mitigate, if it does not relieve, a community entirely of the presence of malaria. The local boards of health in these infected districts should point out to the people this danger and arouse them to the importance and necessity of removing this cause of preventable sickness and death. Hence, local boards of health cannot disseminate these facts too widely among the people, and urge their coöperation in thorough drainage in their respective localities.

In examining the reports of different boards of health, I was amazed to find what a large number of children die during the first two years of their existence from cholera infantum and infantile diarrhœa.

Experience has taught us that these diseases are caused in almost every case by excess of heat and by food badly prepared and unsuited to the age of the child. Our county boards of health, by educating the general public as to a suitable diet and regimen for these little ones, would confer a great blessing upon them, and, in many instances, protect them during their tender years from being injured by the pomps and vanities and misdirected kindnesses of the good mothers in this wicked world.

VITAL STATISTICS.

Without accurate vital statistics public hygiene is forced to grope at random in the dark. With them, on the contrary, sanitary science will advance with rapid and easy strides.

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In the progress of public hygiene there is no subject more fundamental and important than a full, complete and accurate registration of vital statistics. The history of this Association abundantly proves that with all the energy, zeal and wisdom that the State Health Officer has brought to bear upon this subject, trustworthy reports have been obtained from only a few of the counties of the State. I decided to refer to this subject for the purpose of urging the medical men in each county in the State to familiarize themselves with arguments in favor of vital statistics, so as to convince the public of their extreme value; and with this object in view I will quote from the able paper read by Dr. S. E. Chaille, of New Orleans, La., before the American Medical Association in the year 1879:

"Public hygiene derived its birth from and depends for its future progress on vital statistics, and every argument which favors the establishment of boards of health, is an argument in behalf of vital statistics, for, while a board of health without them is as helpless as is a man without eyes to guide him, so without vital statistics, the public is destitute of the only valid test of a board of health. If a human being is much more valuable to the State than is a bale of cotton, then statistics of the human crop would prove much more valuable than statistics of the cotton crop, and yet every newspaper can and does furnish statistics as to the cotton crop, such as no man can now, anywhere, procure as to our human crop. Vital statistics furnish unerring lessons as to the health, prosperity and morals of the people; they teach the influence of marriage on illegitimacy and morality; the fecundity of the whole people and the races thereof; the vital force of children; the duration of life, with its expectation and value, for all ages and races; the influence of meteorology, occupation, locality, in generating disease and improving health, and thereby the removal of unfavorable conditions, always found, even where least expected; and the approach of morbific storms, by ignorance of which negligent cities and even nations have been destroyed.

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"The only foundation of life insurance, vital statistics, seem alike to guide the resident and the immigrant, the capitalist and the laborer, the politician and the statesman, the moralist and the scientist. Ignored or disparaged by the average State legislator, they have been advocated and supported by Napoleon and Thiers, by Bismarck and Cavour, by Gladstone and Disraeli; and their establishment has become a test of the degree of civilization reached by a people and their rulers."

So if the preservation of human life is truly a matter of paramount importance to the State, and to which all other interests are but auxilliary, is it not plain that vital statistics should take precedence of statistics of every other kind? Since it is an established fact that the kind and type of disease in every locality is influenced in a great measure by the nature of the morbific agents peculiar to the neighborhood, statistics would enable the physician to a great extent to determine whether the fatal sickness was the result of endemic influences or the effect of circumstances which were purely accidental.

VACCINATION.

The Medical Association of this State desires to call earnest attention to the fact that small-pox, in a severe and fatal form, has prevailed in some sections of this State, and is now prevailing in some of the cities of adjoining States so intimately connected with us by the lines of public travel as to constantly threaten fresh introductions of the disease. Unless unusual precautions are taken by our city, towns and county health authorities to prevent such importations and the spread of this disease, they are liable to have another visitation at almost any time on a larger scale. It is incumbent on the local health authorities of every county in this State to warn the people that decisive action should at once be taken to protect their counties from this loathsome malady. Fortunately, the method of prevention is as certain in its action as it is cheap and easy to obtain.

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Vaccination and revaccination properly done with reliable virus, is a certain prevention, and is entirely free from danger. This is the conclusion of the scientific world after investigation and large experience, and may be thoroughly relied upon. Notwithstanding that this safe, cheap and perfect protection is within the reach of all, it is estimated that fully one-third of the people in many counties in this State have never availed themselves of it. Under these circumstances, it seems that our next legislature would act wisely to enact a law making vaccination compulsory in the principal cities and in those counties exposed by the constant influx of a large transient and floating population. Additional security would be afforded against this loathsome disease, if proprietors of schools everywhere, both public and private, would coöperate by requiring vaccination as a condition of admission, and the proprietors of manufactories and railroads would make the same requirement of their employes.

MEDICINE AS COMPARED WITH OTHER SCIENCES.

The uncertainty of medicine, and the different opinions of those who cultivate it, are often referred to as an evidence of its low rank as a science; yet I believe that, excepting mathematics and pursuits resting strictly on it, no pursuit of man surpasses or equals medicine in the certainty of its opinions, and in its positive blessings to society. We do not assume that medicine as a science or art, is now perfect; on the contrary, none feel its defects more keenly than medical men; yet we know that a steady and brilliant improvement is in progress. When we examine other professions, it is very plainly seen, that there is as much uncertainty and want of uniformity in opinions as in ours. In theology, learned bodies (though they have access to the same sources of opinion,) are divided, not only in regard to the speculation about mysteries and the interpretation of phrases, but in confessions of faith, administration of ordinances and church government. The law is said to be the

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perfection of human reason, but if medicine is proverbially uncertain, what may be said of the law? Its doctrines are written, its decisions are voluminous, and moreover, the whole science may be narrowed down to a question of right and wrong. It may be said that legal decisions are uncertain because of defective evidence. This is granted, but its uncertainty is seen as frequently in interpretations of organic as of common law. I have no hesitation in saying, that the opinions of medical men, given, as they often are, on the spur of the moment, are characterized by as much certainty as those of lawyers. In comparing medicine with political economy, we find that our statesmen are not unanimous in their views on the subject of domestic manufacturing, tariffs, currency, internal improvements, educational systems, modes of taxation, and the general rights of citizens. The movements of the mercantile and manufacturing world rest upon calculations or estimates, but of all pursuits none are so uncertain. Navigation, so far as it relates to mathematics, is remarkably accurate. The ship is guided from port to port, and throughout her voyage, her exact position on the surface of the ocean can be defined.

These calculations are founded on the movements of the Heavenly bodies, but the opinions of the captain in regard to the weather and the duration of his voyage are all uncertain. When he encounters the commotions of nature, the fierce tempest, and the surging ocean, he has no more certainty of saving his ship and crew than the physician who struggles with the conflicts of nature in the human organism. My space will not allow me to say more on this topic, but these examples, I trust, will contribute somewhat to wipe off the stigma of the greater uncertainty in medicine than in other pursuits.

THE RELATIONS OF THE MEDICAL PROFESSION TO THE PEOPLE.

In England, according to Macauley, "the term of human life has been greatly lengthened in the whole Kingdom."

In examining the reports of the Registrar General of

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England, and the statistics of the Bureau Centrale of Paris, and the publications of the great hospitals of our own country, we find that life has been prolonged more than twenty-five per cent. in the last seventy-five years, and the duration of treatment lessened more than one-third. Now, it may be said that the amelioration of the general condition of the masses and the widespread prevalence of public charity explain this gain in human life, and deprive medicine of the claim to such titles of glory. But we present these irrefutable hospital reports; their wards are the peculiar battle ground of the doctors, and showing these results, we demand that they shall be exponents of what has been done for society at large, that this increased longevity is due to our science. It is true in the past, and in a great measure now, that medical men have received but little encouragement in their efforts to elevate the standard and increase the influence and usefulness of the medical profession. But the people are awakening from their dreamy indifference to general sanitation. The epidemics that formerly terrified the nations, leaving in their trail desolation worse than the tornado, have been shorn of their terror—they now no longer look upon them as the visitation of God's wrath, and have come to know that the curse causeless does not come.

In urging measures to promote the prosperity and usefulness of this Association, I have been somewhat oppressed by the consideration that one who has done as little for the Association, and has as little practical experience in its workings as I have, should scarcely venture to proffer advice. But courage has been gained from the fact that all essential measures urged by me have also been suggested by those who have heretofore occupied the distinguished position of President of this Association, and knowing that what was impracticable yesterday may be practicable to-day, or become so to-morrow. I was informed by a distinguished medical man from an adjoining State that the Medical Association of Alabama had accomplished more,

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and was far in advance of any similar organization in the United States. It is apparent at a glance that the strength and influence of this Association is due to its admirable organization; and it is also true that we have accomplished much, but there remains a great deal of earnest work yet to be done before we reach that state of perfection that is the aim and purpose of our constitution.

Sir Thomas Watson has said that therapeutics is the final and supreme stage of medicine, but, gentlemen, the learned physician of the present day has a higher and grander duty to perform, viz: that of educating and enlightening the people, so as to protect them against the invasion of all preventable diseases. I feel that I am not uttering the sentiments of a theoretical reformer, when I say that should the laws of health, as understood by modern scientific sanitarians, be faithfully carried out, by the different health authorities in this State, that it can be predicted with reasonable certainty that in the near future, our whole people will be healthier, happier and stronger; our women will be able to pass through the ordeal of maternity with less suffering, less danger and fewer of those complications of the lying in chamber that impairs the constitution and wrecks the nervous system, and our children will be spared to us longer and fewer of them die during the first five years of their existence from diseases directly traceable to ignorance and carelessness.

The past history of the profession shows that medical men have contributed largely to the establishment of scientific truth, not only in their legitimate field of study, but in every branch of scientific research. In viewing the vast scope of the researches of medical men, and the profoundness and minuteness of their varied investigations, we find that they stand in the front rank in the discovery of the interesting and important elements, actions and laws of chemistry, and in the application of these in the wide and endless range of the useful and ornamental arts. The first photograph of the human face was taken in the laboratory of one

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of our American medical colleges. Some of the most eminent botanists and renowned geologists that ever lived laid aside their researches in therapeutics and pathology, to explore the mineral and vegetable kingdoms, and reveal the the hidden secrets of nature in these respective departments. And, gentlemen, the medical profession has given to the world the microscopist, who, by lengthening the scope of mortal vision, is enabled to study, measure and understand the nature and the relation which they bear to life, health and disease, those tiny atoms that float through the expanseless realms of space. Macauley, in his remarks before the University of Glasgow on the political prospects of Great Britain, said that from his youth up, he had heard of nothing but ruin, and witnessed nothing but progress; so it is in all of the economies of life and being, the tendency is always in the direction of progress. Advance by development is nature's law, and so scientific medicine is rapidly developing; for year by year, new discoveries are made and new truths established in chemistry, therapeutics and pathology. But, gentlemen, it is a lamentable fact, that the physician's labors are not appreciated according to their deserts, compared with those of the other learned professions.

The triumphs of the warrior, the statesman, and the jurist are achieved in the light of the most intelligent and wide-awakened scrutiny, and the country rings its echo of encouragement and fame. Not so with the physician—the silent and viewless assassins in the air; the mysterious and subtle poisoners of nature's fountains of life, are his adversaries. He meets them not in the broad light of day, and before admiring audiences, but oftenest in the night, in the the curtained secrecy of each man's home; sometimes in a palace, it may be, but more frequently in the humblest dwelling places of obscurity. His life is one of peculiar hardship and trial. His skill must be exercised in the gloom of the sick room, where pain and sorrow hang like a pall before him. He has no applauding senates or shouting mul-

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titudes to cheer him on in the path of duty. Alone or surrounded by the grief stricken and helpless, he puts forth his skill and learning as a barrier between life and death. In addition to a constant strain on his brain and nervous system in consequence of care, responsibility and anxiety, he must endure physical hardships of no trifling nature. He must breast the wintry storms and face the sweltering sun. It often becomes his duty to leave cosy rooms and blazing fires to go out in the sleet and ice to visit the hovels of the sick and helpless. He is sometimes called upon, without the promise of fee or hope of reward, to leave the bedside of his own loved ones tossing in pain, to answer the summons of paupers appealing for rescue from the jaws of death. And, gentlemen, when epidemics of those hateful and dreaded contagious and pestilential diseases make their appearance, the medical profession have ever illustrated the heroism of their manhood, and the duty which they owe to their profession, by standing bravely at their posts. We all well remember, a few years ago, when several cities within the borders of this State were but little better than charnel houses from a visitation of cholera and yellow fever, the local members of the medical profession sent their families to places of safety, and for many weary days and nights courted death by wooing duty.

With the hope of no reward except the smiles of Heaven, they worked in the midst of pain, suffering and death until the scourge was over, and many weary nights during that time, when worn out by excessive fatigue and tired nature could endure no more, they were fanned to sleep by the wing of the death angel and the noise of its rustling awakened them again to duty. And now, gentlemen, as men we owe duties and obligations to our families and friends; as citizens we owe duties and obligations to the State in which we live; and as physicians we owe duties and obligations to the profession that we have chosen. It is true that the profession is crowded with incompetent members, and others equally as incompetent are continually gaining admission into its ranks.

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I feel no hesitation in saying that by earnest and organized effort these evils can be remedied and a reform gradually accomplished. Let us appeal to the people in every county in this State to aid and encourage us in this great and important undertaking. To the people of the State of Alabama, I have this to say—I earnestly entreat you to cherish and exalt your medical community; become aware that if science cannot aid you in your struggles with disease neither can ignorance; that nothing can by possibility be known to the ignorant empiric and imposter that is not familiar to the educated physician; that a few months of devotion to his art, with meagre advantages, is all too little to familiarize him with all the varieties of disease and the means of meeting them successfully; and that there is no access to the temple of medicine save through the intimate knowledge of the laws by which we live and move and have our being.

THE REVISION OF THE MINUTES OF THE SESSION OF 1884.

The Revision of the Minutes of the session of 1884 being next in order, the Senior Censor called attention to the following errors:

THE REVISION OF THE MINUTES.

It is always very disagreeable, and it often seems to be very ungracious, to find fault with any official person, or with any official person's work. Especially is this so when one's motives are liable to misconception, as mine are on the present occasion if I do what seems to me a simple and common place duty in pointing out some of the errors that occur in the minutes of the proceedings of the State Medical Association at the annual session thereof held last year in Birmingham. I desire therefore to make, in the clearest language I am able to command, the preliminary statement, that in calling attention to the errors in question I am not influenced in the slightest degree by personal considerations, nor by any wish to place any official of this Association in a position of mortification and embarrassment. Contrariwise, my whole object is to have the corrections of the errors that have crept into the record made matters of record also for the benefit of all concerned. It is not a matter of indifference whether or not the proceed-

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ings of this Association are accurately recorded. The Association constitutes an important part of the legal machinery of the State. It is charged with the administration of important laws. Its official acts not only affect the public welfare in a general way, but may influence the personal reputation and the financial prosperity of numerous individuals in widely scattered communities. They may therefore be called in question in the courts. These things being beyond question true, it is easy to see that it is of very great importance that our official proceedings should be recorded with perfect and impartial accuracy; and this for reasons entirely similar to those which make accurate records important in State and municipal legislatures, and in the circuit and chancery and other courts charged with the duty of enforcing the laws of the commonwealth. The legal number of members of the most numerous branch of the General Assembly of Alabama is one hundred. Suppose on calling the roll on the passage of a bill it was found to contain more than a hundred names, what consequences might be expected to follow? Two at least may be readily indicated. It would be evident that somebody had been placed on the roll of members who was not a member; and any law passed by such a vote would certainly be of questionable legal validity. Similar in kind if not in degree of importance are the results that might flow from some action of this Association if more than one hundred names were to be found on the Roll of the College of Counsellors. And this might very well happen if that roll is not carefully kept. Indeed, in 1882 the Secretary's footing up shows that the number of Counsellors and of Counsellors elect amounted then to one hundred and two, and our embarrassment might have been considerable but for the fact that we do not add Counsellors elect to our roll until the lapse of a whole year from the time of their election.

After these preliminary explanations, which I hope may have satisfied all who have heard them of the importance of the current order of business, namely, the revision of the minutes, I proceed to mention a few of the errors that I have noted in the minutes of the last session as officially published. I have not noticed errors due simply to the oversight of printers and proof readers, that is to say, errors of orthography and punctuation. Neither do I call attention to what are known as grammatical errors, errors in syntax and the construction of sentences, although in these minutes their name is legion. But I have confined myself exclusively to errors of fact, some of them of less and some of them of greater importance, but all of them, to my thinking, important enough to make it worth while to have them put right. I have no reason to believe that my list is at all complete. It contains simply such errors as my knowledge of the Association and my memory of last year's work have enabled me to discover without special effort.

(1) On page 1, that is to say, on the title page, occurs the expression "Fifteenth Annual Session." When I was Secretary of the Association, that is to say, from 1868 to 1873, both inclusive, I made an earnest effort to find out how many annual sessions the Association had held before the war, but was not able to get any satisfactory information as the reward of my

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inquiry. I consequently never endeavored to indicate the number of the annual session on the title pages of the volumes of Transactions published under my supervision. Dr. B. H. Riggs was the next Secretary; and the five volumes of Transactions published by him are noted on the title pages as belonging to the 27th, 28th, 29th, 30th, and 31st annual sessions. The present Secretary came next, and under his management were published the Transactions of three annual sessions indicated on the title pages as the 32nd, 33rd, and 34th—the last being the session of 1881. The volume for 1882, also published under the supervision of the present Secretary, has upon the title page no ordinal adjective indicating the numerical rank of the annual session for that year. Now comes the volume for 1883, with the assertion on the title page that the annual session for that year was the 15th; and, without some explanation to the contrary, one would naturally think that this meant the 15th annual session of the Association, counting from the date of its organization. This we who know somewhat of the history of the Association know to be incorrect. We naturally conclude that the Secretary means the 15th annual session since the war; but we find that supposition to fail when we compare it with the facts; because a little examination shows that since the war we have held sixteen annual sessions, instead of fifteen—a fact the Secretary might have learned by simply consulting the schedule of annual sessions on page 242 of the volume of Transactions now under discussion. "What song the Syrens sang, and what dress Achilles wore when he hid himself among women, although puzzling questions, are not beyond all conjecture." So writes quaint Sir Thomas Brown, whom I quote all the more willingly because he was a doctor. And so there is an explanation for this blunder of the Secretary, and I could tell you what it is if it was worth while; but what McCauley's New Zealander will think when he reads that the session of 1881 was the 34th annual session of the Association, and that the session of 1883 was the 15th, this I imagine is a problem too hard even for Dr. Brown.

I have discussed this question at some length because it is next thing to certain that years hence, when I have been laid in the bosom of our mother earth with my toes pointing up to the daisies, and am no longer able to watch over the fortunes of the Association, some future Secretary, prompted thereto by a quite laudable ambition, will undertake to note on the title pages of the then current volumes of Transactions the numbers of the annual sessions corresponding to their respective dates.

(2) On page 5, attached to the Preface, occurs the name of "R. F. Michel, M. D.," as a member of the publishing committee. Now before a single line of this volume had been put in type Dr. Michel had resigned from the publishing committee and his resignation had been accepted. Not only so, but Dr. W. M. Wilkerson had been appointed to fill the vacancy and had accepted the appointment. And all these facts were known to the Secretary.

(3) On page 10, near the middle, in the record of the members of the board of censors present at the meeting, occurs the name of Dr. C. D.

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Parke. Dr. Parke was present at the meeting, but he was present as President of the Association and not as a censor. In fact, he vacated his censorship at Mobile in 1882 when he was elected president, and Dr. Riggs was put in to fill out the unexpired term.

(4) On page 14, near the top, among the titles attached to Dr. Parke's name is that of Grand Senior Counsellor. But Dr. Parke was never a grand senior counsellor, having been first elected to the college of counsellors in Montgomery in 1875, so that he lacked two years of filling the grand senior's preliminary decade.

(5) On page 44, in the paragraph relating to the Bullock County Society, the end of the paragraph, although it is a short one, has utterly forgotten the beginning, and by some curious process of mathematical ledgerdemain three and four are found to be equal, each to each.

(6) On page 45, in the paragraph relating to the Colbert County Society, is the curious statement, that the account of this society in the Register "remains the same as published," because it was omitted from the Register altogether last year (1882) by mistake. In point of fact the account in the Register "remains the same," (as in 1881,) because no subsequent report had been received from the society in question. The dropping out had nothing in the world to do with it.

(7) On page 45, in the paragraph relating to the Choctaw County Society occurs the expression, in connection with the work of the Choctaw board of examiners, "Colleges not notified." But all the examinations reported from Choctaw for 1882 were successful, and colleges are notified only when their graduates fail to get the certificate. There was therefore no reason for notifying the colleges, and just as little for the introduction here of this purely gratuitous statement.

Inaccuracies precisely similar to the one here indicated, sometimes in the same identical words, and sometimes with slight differences of expression, will be found in the paragraphs relating to the societies of the counties of Morgan, Pickens, Randolph, Shelby, Sumter, and Tallapoosa, on pages 46, 47, 48, 49, 50, 51, and 52.

(8) On page 46, in the paragraph relating to the Dallas County Society, occurs the statement, that the Health Officer of that county "lives in the county," the meaning being that he does not live in Selma. But this is a mistake. Dr. King, who was the Health Officer, did then live in Selma, and still lives there.

(9) On page 46, in the paragraph relating to the Dallas County Society, occurs the statement, "Certificate issued and college notified." But the only Certificate issued in 1882 by the examining board of Dallas county was a permit to a student to begin the study of medicine, and there was no college in the case, either to be notified or not notified.

(10) On page 48, in the paragraph relating to the Lowndes County Society, occurs the statement, "Colleges notified." But the two examinations in Lowndes in 1882 both resulted in the success of the applicants, and in such cases notices are never served on the colleges.

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(11) On page 48, in the paragraph relating to the Madison County Society, occurs the statement, "Notice to colleges not answered." But there was no examination in Madison county in 1882; and so there were no colleges to be notified; and nothing for colleges notified or unnotified to answer.

(12) On page 49, in the paragraph relating to the Marengo County Society, occurs the statement, "Notice to colleges not answered." But in all the examinations made in Marengo in 1882 the applicants were successful. Therefore no notices were served on the colleges, and there was nothing for the colleges to answer. Even when colleges are notified of the failure of their alumni, and have notices of that fact served upon them, answers are neither expected nor requested.

Inaccuracies precisely similar to the one here indicated will be found in the paragraphs relating to the societies of Mobile and Wilcox counties, on pages 49 and 52 respectively.

(13) On page 179, the paragraph relating to the matter of preliminary examinations, and numbered (1) on the margin, is wholly inaccurate and misleading. The recommendation submitted to the vote was not for the enforcement of existing constitutional rules, but for the passage of a new rule. See Report of the Board of Censors, page 99, about the middle. The paragraph should be recast somewhat as follows:

(1) It was moved by the Senior Censor that the recommendation of the Board of Censors for the passing of a rule to the effect, that the county boards of medical examiners be required to send up to the State board of medical examiners the examination papers in all cases where preliminary examinations are made in the same way as they send up the examination papers of those who are examined for the practice of medicine, be approved by the Association.

The motion was unanimously adopted.

(14) On page 179, the paragraph relating to the presentation of certain bills, and numbered (2) on the margin, is altogether wide of the mark. The Board of Censors made no recommendation at all in relation to the presentation of these bills or of any other bills. They gave an account of what they had done in obedience to orders of the Association in the matter of certain bills brought before the General Assembly at its last session. See the Report of the Board of Censors, pages 100 to 114 inclusive. In presenting this part of the report the Senior Censor asked that the Association should signify its approval of what had been done in the matter. The paragraph therefore should be recast somewhat as follows:

(2) It was moved by the Senior Censor that the action of the Board of Censors, in endeavoring to secure the passage at the recent session of the General Assembly of certain bills intended to promote the sanitary interests of the State, be approved by the Association.

The motion was unanimously adopted.

(15) On page 179, the paragraph relating to medical ethics, and numbered (3) on the margin, is so constructed as not to admit of translation

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into comprehensible propositions. I find it impossible to obtain from it any conception as to what it was that was recommended by the Board of Censors. Neither does it make clear what it was that was established by the Mobile Medical Society. And in this connection the Board of Censors made one recommendation only, and not several. See Report of the Board of Censors, page 115, et sequel. The paragraph, therefore, should be recast somewhat as follows:

(3) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to amending the ethical ordinance of 1881, by passing a rule, to be numbered as paragraph (5) of said ordinance, prescribing how professional services may be rendered to the patients of irregular practitioners, be approved by the Association.

The motion was unanimously adopted.

(16) On page 180, it is stated that the motion of the Senior Censor in regard to the temperance memorial as described in the paragraph numbered (4) on the margin, was unanimously adopted. This is a mistake. There were a few adverse votes.

(17) On page 180, the paragraph relating to the Book of Accounts, and numbered (8) on the margin, does not decscribe what was really done. The Book of Accounts is a very important book, a description of which can be found on page 39 of the Book of the Rules, and the Board of Censors instructed the Senior Censor to ascertain whether this book was in proper order. The instructions were not given by any board of health. The Board of Censors is also the Committee of Public Health of the State Association, which is the State Board of Health, and as such discharges certain public health functions for the Association in its character of State Board of Health. But the Committee of Public Health had nothing to do with the instructions now in question; and besides, it never makes the mistake that some of the Committees of Public Health in the counties make—the mistake, namely, of considering itself and calling itself a board of health. For the instructions under discussion, see the Report of the Board of Censors, page 118, near the top. The paragraph, therefore, should be recast somewhat as follows:

(8) It was moved by the Senior Censor, that the instructions of the Board of Censors in regard to the Book of Accounts, be approved by the Association.

The motion was unanimously adopted.

(18) On page 180, the paragraph relating to the abrogation of rules governing county boards of medical examiners, and numbered (10) on the margin, does not describe correctly what was done. The Board of Censors, acting as the Board of Medical Examiners, recommended the abrogation, not of certain *rules*, but of the single rule requiring county boards of medical examiners to send up their examination papers along with the annual reports of their respective county societies to the annual sessions of the Association. They further recommended the passing of a new rule to require the examination papers to be forwarded to the Senior Censor from

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time to time as the examinations were made. See Report of the Board of Censors, page 120. The paragraph, therefore, should be recast somewhat as follows:

(10) It was moved by the Senior Censor that the recommendation of the Board of Censors of the abrogation of the existing rule in regard to the sending up to the annual sessions of examination papers by the county boards of examiners, and the passing of a rule to require said county boards of medical examiners to forward their examination papers to the Senior Censor from time to time as examinations may be made, be approved by the Association.

The motion was unanimously adopted.

(19) On page 181, the paragraph relating to the reports of the State Health Officer and numbered (17) on the margin, has no foundation of fact at all to stand upon. The Board of Censors made no recommendation at all in regard to the reports of the State Health Officer; and, consequently, the motion that is here reported to have been unanimously adopted was never offered and never voted on. The whole paragraph, therefore, should be cancelled.

(20) On page 182, discussions are recorded out of connection with the papers and motions which gave rise to them. This dislocation certainly does not contribute to the easy understanding of the questions at issue. In the first line we read "the first part of this report," etc. But what report is meant? There is nothing to show, and it would take a reader not already familiar with the work of the session a long time to find out.

(21) On page 182, about the middle, occurs the following sentence: "Dr. Cochran announced that the rule was only law in the abstract, and could be followed or rejected at the discretion of the local societies." Now I have no doubt that a good many members who heard what I really said on this occasion, would consider this a tolerably accurate statement of it as far as it goes. And, yet, I never said anything of the kind. What I did say was to this effect, namely: The State Association had laid down the ethical rule. That is the law. But the enforcement of the law in the several counties is left to the county societies. In a matter of so much difficulty and importance as the enforcement of a rule of ethics which is in conflict with the habits and customs of communities they must exercise some reasonable discretion—must decide as to the proper times and ways. Even the Master allowed the tares and the wheat to grow together until the harvest. If any local society were formally to reject any ruling of the State Association, that would be abundant ground for its expulsion—for the withdrawal of its charter. But if a local society simply neglects to enforce some ruling of the Association that is a very different thing, and might not be blamable at all. Be ye wise as serpents and harmless as doves.

(22) On page 183, near the bottom, occurs the statement that "Dr. McDaniel introduced a resolution, which was adopted, requiring the Alabama Medical College to require certificates of examination from applicants." This is erroneous in several ways. Dr. McDaniel did move to *require* the

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college to do something. But when I reminded him that the Medical College of Alabama is not under the jurisdiction of the State Association and not subject to its orders, he accepted my suggestion to substitute the word *requested* for *required*. The thing requested is so imperfectly described as to leave it an open question as to what certificates are meant. The resolution is an important one and should have been carefully worded, say somewhat as follows: *Resolved*, That this Association respectfully requests the faculty of the Medical College of Alabama to make it a rule that no Alabama student shall be allowed to matriculate in that institution without the certificate of some county board of medical examiners showing that he has successfully passed the examination preliminary to beginning the study of medicine as prescribed in the Book of the Rules of said State Medical Association.

(23) On pages 183 and 184, a motion is ascribed to Dr. McDaniel that was made by the Senior Censor, but in a very different connection from what here appears.

(24) On page 184 the paragraph beginning "Dr. Cochran represented," etc., entirely misrepresents what Dr. Cochran really did say. He said nothing about making the "report of the Board of Censors and Committee of Public Health as complete as possible;" and he said nothing about "requiring the county health officers to keep a record of fevers peculiar to the climate of Alabama." But he said in effect, That he had regarded the clinical study of the fevers of Alabama as of great importance; that he had prepared an appeal to the county health officers and to the County Boards of Health, and to the physicians of the State urging upon them the importance of said clinical study, and suggesting schedules of the principle points of the several fevers that stood in need of special investigation; that he had prepared clinical blanks to facilitate the recording of the results of said investigations; and more of like character; and wound up with the statement that as yet these efforts had borne no fruit.

(25) On page 184 the paragraph relating to Ship Island Quarantine would lead a careless reader to believe that said quarantine had been kept up at the expense of the Alabama State Board of Health. Of course everybody familiar with the facts knows that it was kept up at the expense of the National Board of Health.

(26) On page 185, in the revision of the roll of the county societies, the Societies of Chambers, Crenshaw, Macon, Monroe, and Pike, are mentioned as having failed in representation and reports; but not a word is said of the consequent action of the Association; which was to order them to be investigated by the Board of Censors.

(27) On page 186, third paragraph from top, a variety of facts are mentioned about Dr. L. W. Shepherd; but there is not a hint as to the order of the Association in regard to the case. The order was that Dr. Shepherd should be dropped from the College of Counsellors for non-payment of dues—certainly a sort of order that ought to go upon the record.

(28) On page 186, fourth paragraph from the top, a variety of facts are

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mentioned about Dr. W. W. Wilkerson; but there is not a hint as to the order of the Association in regard to the case. The order was that Dr. Wilkerson should be dropped from the College of Counsellors for failure to attend the sessions of the Association for three consecutive years—certainly a sort of order that ought to go upon the record.

(29) On page 186, seventh paragraph from the top, a variety of facts are mentioned about Dr. J. C. Lee, and the secretary tells what he proposes to do to put things right; but he fails to mention the order of the Association.

(30) On page 186, near the bottom, and on page 187, at the top, the case of Dr. J. D. Stearns is discussed. The discussion is well enough as a statement of facts, but it affords no excuse for the omission of Dr. Stearns' name from the Roll of the College of Counsellors. The fact that Dr. Stearns moved into a county where there was no medical society furnished no warrant to the secretary, or to the publishing committee, or to anybody else, for dropping his name. If he had gone to the north pole it would have been the same. If he had been a century dead it would have been the same. Let it be understood, once for all, that there is but one way by which any name can be legally dropped from the Roll of the College of Counsellors, namely: by order of the Association to that effect made in open session; and that in like manner there is but one way in which any name can be legally added to the Roll of the College of Counsellors, namely: by the order of the Association to that effect made in open session.

(31) On page 187, second paragraph from top, it is stated that certain Counsellors elect were ordered to be added to the roll under date of 1883. This is a mistake. They were ordered to be added to the roll under date of 1882—the date of their election.

(32) On page 187, near the middle, we read "The Secretary announced that there were nine vacancies." On page 239 the secretary foots up the whole number of Counsellors, including the Counsellors elect, at 97. He should, therefore, if his roll is complete, have announced twelve vacancies instead of nine.

(33) On page 187, near the bottom, in the list of Counsellors elect, occurs the name of Dr. Dunklin Pierce, of Benton, in Lowndes county. This is a mistake. The man really elected is Dr. J. W. Pearce, of Oxford, in Calhoun county.

(34) On page 188 is a list of names ordered to be transferred to the Roll of the Grand Senior Counsellors. There are two names in this list that have no right to be there, namely: Dr. John Alexander McKinnon, and Dr. Clifford Daniel Parke. These names found their way into this list because, in the published roll of 1882, they both occur under the date of 1873. But Dr. Parke was elected at Montgomery in 1875, and Dr. McKinnon at Mobile in 1876.

(35) On page 189, near the bottom, in the revision of the Roll of the Correspondents, we find that "it was ordered that it so remain," etc. Now I find it impossible to infuse a particle of meaning into the phrase "so remain," in the collocation which it here occupies. One might guess that

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it was ordered that the Roll should remain as it was before; and that is indeed what was done; but that meaning is not expressed in the record.

(36) On page 189, note at the top. The object of the vote instructing the Secretary to communicate with the Correspondents was not chiefly what is here stated. The main object was to learn something about them, whether they were all living, whether we have their correct addresses—in a word, to locate and account for them.

(37) In the Introduction to the Book of the Rolls, page 193, we are told that "the labor expended in the effort to make this edition of the Register complete in its many details has been rewarded by reasonable success." What constitutes reasonable success might admit of question; but how widely our Register is removed from an ideal standard of perfection a few facts will show. It contains 1,064 names, or thereabouts, my count being hurriedly made; and in relation to these 1,064 names I have counted over 1,200 errors of omission. True, the most of the facts omitted are not of very great importance in themselves individually considered, consisting as they do of some 550 defective names, some 600 cases in which the dates of certificates and diplomas are not given, about 100 cases where the college of graduation is not stated, and a number of smaller items that need not be here mentioned. These, as I have said, are simply a great multitude of small errors of omission, and do not count for much. How many errors of commission the Register contains I am entirely unable to say—but probably a very considerable number. I find, for example, 45 names of physicians given incorrectly, 15 post offices wrong, and five colleges wrong.

On page 238 the date of the election to the Counsellorship of Dr. James Myers Godfrey is given as 1874. But this is incorrect. He was a permanent member under the old constitution, and as such passed into the College of Counsellors on the reorganization in 1873.

On page 243, third line from top, Dr. John Brown Gaston is mentioned as the orator of the Selma session of 1869. But this is incorrect. Dr. Gaston did deliver the oration in 1869, but the session of that year was held in Mobile, and not in Selma.

I think it also proper to mention that the number of copies printed of the last volume of the Transactions was not sufficient by perhaps one hundred copies to supply the current demand. There is no excuse for an error of this sort, because it is easy enough to estimate the number of copies needed. The number of Counsellors is known; the number of Delegates is known; the number of paying members is known; the number of Correspondents is known; the number of exchanges is known; the number needed for medical periodicals is known. And so it is easy to get the whole number of copies necessary to supply the demand, by simply allowing two copies for each Counsellor, two copies for each Delegate, one copy for each Correspondent, one copy for each paying member, one copy for each of our exchanges, one copy for each medical journal, and a few copies for a margin, and then to add these several numbers together.

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THE ANNUAL REPORT OF THE SECRETARY.

To the President of the Medical Association
of the State of Alabama:

SIR—I take pleasure in presenting this, my Sixth Annual Report as your Secretary and executive officer, for the year commencing April 10th, 1883, and ending April 8th, 1884.

Respectfully,
T. A. MEANS, M. D., *Secretary.*

The charters granted the counties of Coosa and Henry were made out and forwarded to their respective Secretaries immediately after the adjournment of the last session, for which due receipts were given.

For information of those county societies who may hereafter seek admission into the Association, they are referred to the Book of the Rules, page 35, where the form of application for charters may be found.

This reference was suggested, because some counties send up skeleton applications out of form and out of order.

The counties of Clarke, Cleburne, Fayette, Marshall, and Cherokee, will seek membership at the Selma session, information to that effect having reached this office, making, when admitted, forty-seven of the sixty-six counties in the State in affiliation with us. The counties of Coffee, Covington, Dale, DeKalb, Lauderdale, Marion, Russell and Tallapoosa, are debating the question of union. Some, however, of these are not yet numerically strong enough to seek protection from the Association.

The counties of Clay and Lamar, once on the list, will, we are induced to believe, come back to us with profitable lessons.

Others now sparsely populated and remote from railroads and water ways, will in time join us. Many of the

COUNTY MEDICAL SOCIETIES

Have no libraries, or possess no copies of the Transactions. This is due, probably, to the want of a suitable place for their safe keeping; most societies having no hall of their own.

In making application hereafter for copies, Secretaries should include one copy for use of the society, to be placed on the shelves of some one convenient to place of meeting.

The published

VOLUMES OF THE TRANSACTIONS FOR 1883,

The Publishing Committee believe as free from clerical errors as any heretofore issued under their supervision. There are blemishes in all

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books. Secretaries, proof readers, publisher, and committees of publication are fallible. Hence, errors of omission, rather than of commission, will here and there occur, but usually of so small moment to the reviewer or general reader, as not to mar the value or appearance of the book. The binding, typhography, arrangement and mechanical finish of the Transactions of the present year, can scarce be improved.

I have endeavored for many years to secure a uniform system of recording names of members of the Association, but with partial success. I must again urge upon Secretaries of county societies the necessity of being more accurate in their annual reports, especially as regards names, dates and colleges of graduation. A very little industry will secure this.

The Publishing Committee printed 700 copies of the Transactions, and distributed them at a cost of $1,050 70 cents.

I have had printed for use of the Association—

1883—200 Certificates (Form 5) for Examining Boards	$ 4	50
500 Letter heads, office of Secretary	2	00
Also had bound 10 volumes of the Transactions from 1869 to 1879, for office use	5	00
1884—300 Postal cards, and printing two sides	4	50
500 Envelopes	2	00
1200 Circulars	7	50
1250 Stamped envelopes, and printing same	15	50
Total	$41	00

Some confusion has occurred in the distribution of blank forms for use of the County Medical Examining Boards, application having been made both to Dr. Cochran and myself.

That no trouble may hereafter follow, I will state that all blanks required by County Examining Boards, can be had by application to this office. Those for use of County Health Officers are in the hands of the State Health Officer, upon whom requisition should be made.

Shortly after the adjournment of the last session, Dr. R. F. Michel, senior member of the committee, sent me as chairman, the following communications:

To T. A. Means, M. D.,
Chairman of Committee of Publication of the Medical Association of the State of Alabama:

Dear Sir—Permit me to request that you forward this, my resignation, from the Committee of Publication of the Medical Association of the State of Alabama.

Respectfully,
R. F. Michel, M. D.

To Mortimer H. Jordan, M. D., Birmingham, Ala.,
President of the Medical Association of the State of Alabama:

Dear Sir—I tender this, my resignation, from the Committee of Publication of the Medical Association of the State of Alabama.

Respectfully, R. F. Michel, M. D.

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Dr. Michel's resignation was accepted and answered in the following communication:

BIRMINGHAM, ALA., May 18th, 1883.

DR. R. F. MICHEL, M. D., Montgomery, Alabama:

DEAR DOCTOR—I have just been officially notified through Dr. Means of your determination to resign the position of a member of the Publishing Committee, of which you have been so long and prominently useful.

I need not, therefore, assure you that it is a cause for regret, not alone to myself, but to the profession at large of the State of Alabama, to be compelled to accept it. Did I not know that the matter was maturely considered by you, I would undertake by personal appeal in the interest of the whole profession, to dissuade you from it; but your praiseworthy zeal in every interest of the profession of the State, is too well known to entertain for a moment a doubt that it was not lightly considered by you.

Permit me, then, dear doctor, in accepting it, to remark, that in casting about in my mind for a successor, it will be a difficult labor to select one so well qualified for the position as you are, whether considered from the standpoint of literary attainments, indefatigable zeal, or accuracy in every labor attending the publication of the Transactions.

May your life and health be long spared to yourself and family, and to the cause of medicine which you have long labored to elevate and ennoble.

I am, very truly yours,

M. H. JORDAN, Prest. M. A. S. A.

Dr. Wooten M. Wilkerson, of Montgomery, was appointed to fill the vacancy caused by the resignation of Dr. Michel, but resigned before entering upon his duties.

THE SEAL AND PRESS

Belonging to the Association is so faulty, inconvenient and worn, as to render it useless. I would earnestly request that a new one be ordered; the cost being a mere trifle.

MISCELLANEOUS.

The names of Drs. Clifford D. Parke and John A. McKinnon, both of Selma, were transferred to the Roll of Grand Senior Counsellors through mistake. The former being elected counsellor at the Montgomery session, 1875, the latter at the Mobile session, 1876. Their names having been carried forward continuously on the Roll of Counsellors as having been elected in 1873, led to the error.

Dr. James M. Godfrey, of Sumterville, Sumter county, was elected Counsellor in 1873, resigned in 1877, and re-elected at the Eufaula session in 1878.

His name appears on the Treasurer's books as having paid annual dues continuously since his first election in 1873. His membership should date, therefore, from this year, namely, 1873.

[NOTE—Dr. Godfrey was a permanent member under the old organization,

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and when the new constitution was adopted in 1873, it was provided that all permanent members who chose to do so, should become Counsellors. Dr. Godfrey was one of those who desired to do this. But in some way his name was left off the roll published in 1873, but was added as a correction with same date (1873) at the Selma session, 1874.]

The Book of the Rolls

Is as complete as could be made. The fault in not printing them entire is due to indifference on the part of Counsellors in giving the desired information for entry.

The Book of portraits is complete.

The Book of the Dead, opened in 1879, has but three photographs of deceased Counsellors.

The present year adds two more to the Book of Honor, namely: Drs. Paul DeLacy Baker, of Eufaula, and Edmund H. Fournier of Mobile. The portraits of these honored members have been transferred to the Book of the dead.

Exchanges Received.

1. Alabama; Geological Survey. Report embracing an account of the Agricultural Features of the State. By Eugene Allen Smith, Phr. D., Geologist, Montgomery, 1883.
2. Annals of Anatomy and Surgery, Vol. viii, No. 4, 1883. L. D. Peloher, M. D., and G. R. Fowler, M. D., Editors, Brooklyn, N. Y.
3. Arkansas; Minutes of the State Medical Society, Eighth Annual Session, Little Rock, May 30th, 1883. L. P. Gibson, M. D., Secretary.
4. California; Transactions of the Medical Society, 1882-83, Wallace A. Briggs, M. D., Secretary, Sacremento.
5. Connecticut; Proceedings of the Medical Society, 1883, Ninety Second Annual Convocation; New Series, Vol. ii, No. 4. C. W. Chamberlain, M. D., Secretary, Hartford.

(b) Fifth Annual Report of the Board of Health, Nov. 30th, 1883. C. W. Chamberlain, M. D., Secretary, Hartford.

(c) Sixth Annual Report of the Convention B. of H. for the fiscal year ending Nov. 30, 1883.

7. Colorado; Transactions of the State Medical Society. Thirteenth Annual Convention, January, 1883, Samuel S. Fish, M. D., Secretary, Denver.
8. Charlatanism in Colorado; by Jesse Hawes, M. D., Greeley, 1883.
9. Double Irrigation and Drainage Tubes; Uterine Dilatation and Elastic Force; The cure of Hernia by the Antiseptic Use of Animal Ligature, by Henry O. Marcy, M. D., Boston, Mass.
10. Galen and Paraclesus, by John C. Dalton, New York.
11. Georgia; (a) Transactions of the Medical Association, Thirty-Third Annual Session, Atlanta, April 19th, 1882, A. Sibley Campbell, M. D., Secretary, Augusta.

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(b) Fourth Annual Session, April 18th, 1883, James A. Gray, M. D., Secretary, Atlanta.

(c) Fifth Report of the Board of Health of the city of Atlanta, 1883, James A. Beard, M. D., Secretary.

14. Illinois; Fourth Annual Report of the State Board of Health, 1882, Sprigfield, John H. Rauch, M. D., Secretary, Chicago.

(b) State Board of Health; Preventable Diseases; (1) Small-Pox, (2) Diptheria, (3) Scarlet Fever, 1882, Springfield, John H. Rauch, M. D., Secretary, Chicago.

(c) Report of the Proceedings of the State Board of Health, January 12th, 1883, Springfield, John H. Rauch, M. D., Secretary, Chicago.

(d) Immigrant Inspection Service, National Board of Health, 1883, John H. Rauch, M. D., Supervising Inspector, Chicago.

21. Incisions and Discissions of the Cervex Uteri, by E. R. Pearloe, M. D., L. L. D., New York, 1876.

22. Indiana; (a) State Board of Health. Their objects, uses, &c.; issued by order of the State Board of Health, 1882. Thad. M. Stevens, M. D., Secretary, Indianapolis.

(b) Transactions of the State Medical Society; held in Indianapolis May 8-9-10th, 1883, Thirty-Third Annual Session; E. J. Elder, M. D., Secretary, Indianapolis.

24. Iowa; First Registration Report of the State Board of Health, 1883, DesMoines, R. J. Farquharsen, M. D., Secretary, DesMoines.

(b) Second Biennial Report of the State Board of Health. January 30th, 1883. R. J. Farquharsen, M. D., Secretary, DesMoines.

26. Kentucky; Fifth Annual Report of the Board of Health, 1883. John J. Speed, M. D. Secretary, Louisville.

27. Louisiana; (a) Report of the Board of Health [pub. doc.] for the year 1882, and the first six months of 1883, embracing the Quarantine and Sanitary Operations of the Board of Health; Baton Rouge. J. J. Herrick, M. D., Secretary, New Orleans.

(b) Report upon Yellow Fever in Louisiana in 1878, and subsequently, by S. M. Bemiss, M. D.; New Orleans.

(c) Outlines of the History, Theory and Practice of Quarantine, by Joseph Jones, M. D., President of the Board of Health, New Orleans, 1883.

(d) Abstract of State Society Proceedings No. 1. Some debatable points in Small-Pox and Vaccination, (1) Origin of Small-Pox; (2) Comparative merits of Bovine and Humanized Vaccine Virus; (3) Compulsory Vaccination, by J. J. Herrick, M. D., Secretary State Board of Health, New Orleans.

31. Maine; Transactions of the Medical Association, 1883, Vol. viii, Part 1. Charles D. Smith, M. D., Secretary, Portland.

32. Maryland; Transactions of the Medical and Chirurgical Faculty of the State. Eighty-Fifth Annual Session; Baltimore, April, 1883; G. Lane Tanehil, M. D., Secretary, Baltimore.

33. Massachusetts; (a) [pub doc.] Thirty-Eighth Report of the Legislature Relating to Registry and Returns of Births, Marriages and

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Deaths. December 31st, 1879. H. B. Pierce, M. D., Secretary of the Commonwealth, Boston.

(b) Medical Communications of the Society, Vol. xiii, No. 11, 1883. F. W. Gross, M. D., Secretary, Boston.

35. Michigan; (a) Transactions of the State Medical Society, 1883. Geo. E. Ramsey, M. D., Secretary, Lansing.

(b) The Work of Health Officers and local Boards of Health, including duties under laws amended and passed in 1883. Henry B. Baker, M. D., Secretary, Lansing.

(c) Proceedings and Addresses at a Sanitary Convention held at Pontiac, January 31st, and February 1st, 1883, No. 198, and at Beard City, April 26-7, 1883, No. 199.

38. Minnesota; Transactions of the Medical Society, June, 1883. J. H. Boardman, M. D., Secretary, Mineapolis.

39. Mississippi; Transactions of the State Board of Health, 1883. M. E. Todd, M. D., Secretary, Clinton.

40. Missouri; Acts Establishing the Board of Health, 1883. J. C. Hearne, M. D., Secretary, Hannibal.

(2) Transactions of the Medical Association, 1883.

42. Nebraska; State Medical Society Proceedings, 1883. Robt. Livingston, M. D., Secretary, Plattsmouth.

43. New Hampshire; Transactions of the Medical Society; Ninty-Third Annual Session held at Concord, June 19-20, 1883. G. P. Course, M. D., Secretary, Concord.

44. New Jersey; Medical Society Transactions, 1883. William Elmer, M. D., Secretary, Trenton.

45. New York; (a) Transactions of the Academy of Medicine; Second Series, Vol. I, 1874, Vol. II, 1876. W. T. White, M. D., Secretary, New York; Vol. III, 1883, W T. Kazenbach, M. D., Secretary, New York.

(b) Addresses, Drs. Austin Flint, and Samuel J. Purple, New York.

(c) Address, Dr. Samuel J. Purple and Fordyce Barker, M. D., L. L. D., President, New York.

(d) Second Inaugural Address, by Fordyce Barker, M. D., L. L. D., President, New York.

(e) "In Memoriam"—Valentine Mott, M. D., L. L. D., by Alfred C. Post, M. D., New York.

(f) Annual Address before the Academy of Medicine of New York, Oct. 10th, 1883, by Henry O. Marcy, A. M., M. D., Boston.

(g) Second Annual Report of the Board of Health, Feb. 8th, 1882. Elisha Harris, M. D., Secretary, New York.

(h) First Annual Report of the New York Sanitary Reform Society, 1880, James Gallatin, President, New York.

(i) The Origin and Propagation of Disease, by John C. Dalton, M. D., New York; (2) Significance of Disturbed Action and Functional Murmurs of the Heart, by J. R. Leaming, M. D., New York.

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54. Ohio; Ninth Annual Report of the Cincinnati Sanitarium, 1882. V. P. Collins, Secretary, Cincinnati.
55. The Opium Habit—Its Successful Treatment, by Avena Sativa. A paper read before the New York Medical Society, 1883, by E. H. M. Sells, A. M., M. D., of New York.
56. Oregon; Proceedings of the Tenth Annual Meeting of the State Medical Society, held at Portland, June 13, 14, and 15, 1883. E. P. Frazer, M. D., Secretary, Portland.
57. Pennsylvania; (a) Transactions of the Medical Society, Thirty-Fourth Annual Session, held at Morristown, May 9, 10, 11, 1883. W. B. Atkinson, M. D., Secretary, Philadelphia.
58. Report of the Board of Health of the city of Reading, 1883.
59. Rocky Mountain Health Resorts. An Analytical Study of High Latitudes in relation to the Arrest of Chronic Pulmonary Disease, by Charles Denison, A. M., M. D., second edition, 1881; Boston.
60. Rhode Island; Transactions of the Medical Society, vol. 11, Part vi., 1882. J. D. Hersey, M. D., Providence.
61. South America; El Ensayo Medico, Vol 1, Nos. 4, 5; Caracas, So. Am. 1883. Doroteo De Armas, and F. Monroy Gonzalez and David Lobo, Editors.
62. South Carolina; Transactions of the Medical Association, 33d Annual Session, held in Yorkville, April 25th, 26th, 1883. John Forrest, M. D., Secretary, Charleston.
63. Texas; Transactions of the State Medical Association; Fifteenth Annual Session held at Tyler, April 24-5-6, 1883. W. J. Burt, M. D., Secretary, Austin.
64. Washington, D. C.; (a) [Pub. Doc.] Department of Agriculture; (1) Contagious Diseases of Domesticated Animals, 1883; (2) Contagious Diseases of Cattle. Message from the President of the United States to the Senate, Ex. Doc. No. 5.

(b) Special Report No. 31—Contagious Pleuro-Pneumonia; third Report of Charles P. Lyman, F. R. C. V. S., Washington, D. C., 1881; (3) Special Report No. 50. The Dissemination of Texas Fever of Cattle and How to Control it.

(c) Extracted from the Report of the Surgeon General of the U. S. Navy; (1) Yellow Fever on Board the steamer "Plymouth." Phillip J. Wales, Surgeon General of the Navy; (2) Sanitary and Statistical Report of the Surgeon General U. S. Navy, 1881. Phillip J. Wales, Surgeon General: (3) Hygienic and Medical Reports, 1879. Navy Dep't [Bureau of Medicine and Surgery.]

(d) Annual Report of the Librarian of Congress for the calendar year, 1882. Washington, 1883.

72. Contributed by J. M. Toner, M. D., Washington, D. C.—(1) Address before the Rocky Mountain Medical Association, June 6th, 1877; (2) Address as President of the Am. Med. Ass. 1874; (3) A Biographical sketch of John D. Jackson, M. D., of Danville, Ky., 1876;

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(4) "The Toner Lectures," Smithsonian Miscellaneous Collections, 282; Lecture IV., "A study of the Nature and Machinism of Fever, January 20th, 1875; (5) Free Parks and Camping Grounds, or Sanitariums for the sick and destitute children of the poor in crowded cities during the summer months, May, 1873.

76. West Virginia; Transactions of the Medical Society; Sixteenth Annual session held in Grafton, May 16, 17, 1883. J. L. Jepson, M. D., Secretary, Wheeling.

77. Wisconsin; seventh Annual Report of the State Board of Health, 1882. John T. Reeve, M. D., secretary, Madison.

78. (b) Transactions State Medical Society, 1883. J. T. Reeve, M. D., Secretary, Appleton.

Since the reorganization of this Association, these volumes have been accumulating without a published record, until 1878. Having no library or suitable place to keep them, they were subjected to repeated removal. Hence, losses have occurred. The following four volumes, namely: Transactions of the Colorado Medical Society for 1877; Transactions of the State Medical Society of Iowa for 1882; the 30th Annual Meeting of the Illinois State Medical Society for 1880; The Public Health Reports of Tennessee for 1879, and five pamphlets, are missing. I have made effort to obtain duplicate copies of these books, and hope to make good the loss.

Dr. Jerome Cochran, State Health Officer, having secured a suitable room in the Capitol building for his own use, and for the better care and preservation of the archives of the Association, these books have been transferred and suitably arranged on the shelves of a neat book case therein. Being some distance from my office, I cannot bestow upon them that care and attention exacted of me; yet the Senior Censor has kindly consented to attend to this duty for me.

It is to be regretted that this office was unable to exchange with the various Medical organizations throughout the States, the 700 copies issued being barely sufficient to supply members of the Association.

Some of the State Medical Societies and State Boards of Health find fault with Editors of Medical Journals for not reviewing their books, when requested so to do. This has been the case with our own Transactions. I therefore suggest that the following notice be allowed and printed in slips and sent with copies oi the Transactions to Editors:

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA,
OFFICE OF SECRETARY.

Dr————————, Editor ————— Medical Journal:

Dear Sir—This copy of the Transactions of the Medical Association of the State of Alabama is sent to you for review. Should notice be taken of it, please send me a copy of your Journal containing it.

A failure so to do will indicate to me that future additions are not wanted.

Respectfully,

T. A. MEANS, M. D., Secretary.

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Twelve hundred copies of the following circular were distributed March 1st to counsellors, correspondents, members of the Association, and to the profession throughout the State:

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

"*Nos Etiam Speravimus Meliora.*"

OFFICE OF THE SECRETARY, Montgomery, March 1, 1884.

The Annual Session of the Medical Association of the State of Alabama, for the current year, will be held in the city of Selma, commencing on the second Tuesday in April (8th), 1884, and continuing four days.

Every County Medical Society is required by the Constitution of the Association to send to every Annual Session two Delegates to represent its interests and wishes, together with the annual fee of one dollar for every one of its members, not a Counsellor or a Delegate. Members paying this fee will receive copies of the Transactions in return.

Every County Medical Society is also required by the Constitution and Ordinances of the Association, to send up an annual report in relation to current status and work; said report to contain the following items of information, namely:

First.—The names of members and officers of the society, together with the names of the colleges in which they were graduated, and their postoffice addresses; and when any members have been admitted on the certificate of the County Board of Medical Examiners, the facts should be so stated.

Second.—The names, colleges and post-office addresses of all irregular physicians practicing medicine in the county who are not members of the county society.

Third.—The names, systems of practice, and post-office addresses of all physicians in the county who are engaged in the practice of any other than the regular system of medicine.

Fourth.—The names and post-office addresses of the medical practitioners of the county who, during the preceding calendar year, have died, or have discontinued the practice of medicine, or have moved from the county.

Fifth.—The names, colleges and post-office addresses of all Doctors of Medicine, who, during the preceding calendar year, have passed examinations before the County Board of Medical Examiners, with the results of the examinations, whether successful or unsuccessful.

Sixth.—The names, post-office addresses, and colleges, if any, of all others than members of the regular profession, who, during the preceding calendar year, have passed examinations before the County Board of Medical Examiners, with the results of the examinations, whether successful or unsuccessful.

Seventh.—The written examination papers of all persons who, during the

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preceding calendar year, have passed examinations before the County Board of Medical Examiners, and these in the handwriting of the persons examined.

Eighth.—The names and post-office addresses of all persons who, during the calendar year, have passed before the County Board of Medical Examiners, the examination preliminary to the study of medicine, with the results of the examinations, whether successful or unsuccessful.

The phrase "calendar year," is intended to mean from the first day of January to the last day of December, including the two days mentioned. But the list of officers desired is that of the current year.

Heretofore many of these Reports have been made out in a very perfunctory and unsatisfactory way. It is earnestly hoped that more care will be taken hereafter to have them full and accurate. All reports in any way defective will be returned for correction and amendment.

Individual members, or Boards of Censors, or County Societies, intending to prefer charges or complaints of any sort against other individual members or Boards of Censors or County Societies, will forward prompt notice of such intention to the Senior Censor, together with copies of the charges or complaints, so that the parties charged or complained of may receive due notice thereof, and have reasonable time to prepare their defense.

In the revision of the rolls, which is the special order of business for the last day of the session, County Medical Societies that have been gravely derelict or persistently negligent in the discharge of their duties under the Constitution of the Association and laws of the State, will be liable to censure or deprivation of charter; and all Counsellors who have failed to pay their annual dues, or who have failed to attend three successive meetings of the Association, will be dropped from the College of Counsellors.

All Counsellers of five years standing, who have not already done so, are requested to furnish photographs of themselves, of cabinet size, for insertion in the Book of Portraits.

The administration of the law providing for the collection of vital statistics and the supervision of the public health, in the several counties of the State, has imposed upon the Association new, important and difficult duties; and in order that these duties may be properly discussed and understood, it is desirable that the approaching session of the Association should be numerously attended.

It is therefore hoped –

(1) That every Counsellor will consider it both a duty and a privilege to be at his post.

(2) That every County Society will come up to the full measure of its constitutional obligations by sending its full complement of Delegates.

(3) That all the County Health Officers will be in attendance for consultation with the Health Officer of the State.

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(4) It is expected that Regular Reports will be submitted on the following subjects, namely:

The Uses and Abuses of Statistics; Sensations in Health and Disease; The Present Aspect of the Germ Theory; Curable Forms of Deafness; Some Reasons, Medical and Moral, why Artificial Abortions and Craniotomy should be banished from practice, even as a last resort.

A number of special Reports will be presented in relation to the diseases prevalent in various parts of the State during the past year.

It is hoped that members will come fully prepared to engage in the discussions that will occur in relation to these several subjects; and also to take part in the Omnibus Discussion.

Officers of societies will please take such steps as may be necessary to collect the fee of one dollar for every member.

The Transactions they receive in return is worth three times the money, and is a necessity to every one who desires to do his whole duty to the Association.

It is of the greatest importance that every County Society in the Association should have Delegates in attendance, and it is earnestly hoped that none of the societies will fail to make such arrangements as will render their representation certain.

The Senior Censor very earnestly requests that all of the Grand Senior Counsellors shall be present at the meeting.

The leader in the Omnibus Discussion has chosen the following subjects for debate, and they are here published for the benefit of those wishing to participate in the discussion:

First.—What is the differential diagnosis between Typhoid and Continued Malarial Fevers?

Second.—What are the best methods for cutting short or breaking up a Continued Malarial Fever?

Third.—Under what conditions is the Induction of Premature Labor justifiable?

Fourth.—In Natural Labor, is it best to abolish all pain possible without retarding labor?

Fifth.—What is the safest, speediest and least painful cure for Hemorrhoids?

Sixth.—What is the best substitute for Opium, or its preparations when they are indicated and cannot be tolerated by the patient?

Seventh.—What is the best treatment for local Chronic Eczema?

T. A. MEANS, M. D.,
Secretary.

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THE ANNUAL REPORT OF THE TREASURER.

WALTER CLARKE JACKSON, M. D., *Treasurer*,

In Account with the Medical Association of the State of Alabama, from April 10th, 1883, to April 8th, 1884.

TO DUES OF COUNSELLORS.	Dr.
Anderson, William Henry, Mobile	$ 10 00
Abernethy, William Henry, Sedan	10 00
Baker, Paul DeLacy, Eufaula	10 00
Baldridge, Milton Columbus, Huntsville	10 00
Barclay, James Paxton, Eutaw	10 00
Barklay, John Wyeth, Huntsville	10 00
Brown, Pugh H., Troy	10 00
Brown, George Washington, Pratt Mines	10 00
Brockway, Dudley S., Coatopa	10 00
Bevans, Joseph, Gadsden	10 00
Bryce, Peter, Tuskaloosa	10 00
Caffey, Hugh William, Lowndesboro	10 00
Cason, Davis Elmore, Ashville	10 00
Cochran, Jerome, Mobile	10 00
Cross, Benjamin Franklin, Decatur	10 00
Cross, William Cyprian, Centreville	10 00
Dement, John Jefferson, Huntsville	10 00
DuBose, Wilds Scott, Columbiana	10 00
Fletcher, Richard Mathew, Madison connty	10 00
Franklin, Charles Higgs, Union Springs	10 00
Furniss, John Perkins, Selma	10 00
Fournier, Edmund Henry, Mobile	10 00
Gaston, John Brown, Montgomery	10 00
Gaines, Vivian Pendleton, Mt. Sterling	10 00
Gaines, Edmund Pendleton, Mobile	10 00
Godfrey, James Myers, Sumterville	10 00
Goodwin, James A., Jasper	10 00
Hays, Robert Hughes, Union Springs	10 00
Hawkins, Richard Nathaniel, Montevallo	10 00
Hendrick, Gustavus, Brudridge	10 00
Herbert, Curtis Burke, Greenville	10 00
Heustis, James Fountain, Mobile	10 00
Hogan, Samuel Mardis, Union Springs	10 00
Hopping, Daniel Stiles, Letohatchie	10 00
Hoffman, John Richardson, Athens	10 00
Hill, Samuel H., Carrollton	10 00

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Jackson, John Dandridge, Summerfield	$ 10 00
Jackson, Walter Clarke, Montgomery	10 00
Jay, Andrew, Jr., Evergreen	10 00
Johnston, William Henry, Selma	10 00
Jordan, Mortimer Harvey, Birmingham	10 00
Jones, Capers Capehart, Snow Hill	10 00
Ketchum, George Augustus, Mobile	10 00
Kendrick, William T., Montgomery	10 00
Kendrick, Joel C., Greenville	10 00
Kumpe, George Ernest, Leighton	10 00
Lee, John Cooper, Blount Springs	10 00
Lowry, Samuel Henry, Huntsville	10 00
Luckie, James Buchner, Birmingham	10 00
McAllister, William Thomas, Marion	10 00
McDaniel, Edward Davies, Camden	10 00
McKinnon, John Alexander, Selma	10 00
McKittrick, Adam Alexander, Evergreen	10 00
Means, Thomas Alexander, Montgomery	10 00
Michel, Richard Fraser, Montgomery	10 00
Mitchell, William Augustus, Eufaula	10 00
Morgan, Isaac DuBose, Eutaw	10 00
Moody, Joseph, Bridgeville	10 00
Mushat, John Patrick, Hayneville	10 00
Parke, Clifford Daniel, Selma	10 00
Pritchett, John Albert, Hayneville	10 00
Prince, Francis Marion, Jonesboro	10 00
Phillips, William Crawford, Selma	10 00
Peterson, Frances Marion, Greensboro	10 00
Parham, J. C., Gainesville	10 00
Purnell, William Thomas, Praire Bluff	10 00
Reese, Augustus Jordan, Mobile	10 00
Riggs, Benjamin Hogan, Selma	10 00
Ross, Francis Armstrong, Mobile	10 00
Rorex, James Polk, Scottsboro	10 00
Robertson, Thaddeus Lindley, Oxford	10 00
Sanders, Charles Peak, Pleasant Ridge	10 00
Sanders, William Henry, Mobile	10 00
Sawyer, William T., Mobile	10 00
Sears, John William, Birmingham	10 00
Sholl, Edward Henry, Birmingham	10 00
Shivers, Offa Lunsford, Newberne	10 00
Sledge, William Henry, Livingston	10 00
Seelye, Samuel Dibble, Montgomery	10 00
Starr, Lucius Ernest, Camden	10 00
Smith, Daniel Edgarly, Mobile	10 00
Smith, Samuel Parish, Prattville	10 00
Stovall, Andrew McAdams, Jasper	10 00

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Thomas, James Gray, Mobile	$ 10 00
Tipton, Frank, Selma	10 00
Thetford, William Fletcher, Boligee	10 00
Toxy, Caleb, Mobile	10 00
Thigpen, Job, Greenville	10 00
Wall, Conrad, Forest Home	10 00
Webb, Robert Dickens, Livingston	10 00
Wright, Milton Roil, Gadsden	10 00
Weatherly, Job Sobieski, Montgomery	10 00
Total amount of dues from Counsellors	$ 920 00

TO AMOUNT OF DUES FROM COUNSELLORS ELECT. Dr.

Bowie, Andrew, Benton	$ 5 00
Goggans, James Andrew, Alexander City	10 00
Gordon, T. E., Linden	5 00
Pearce, John W., Oxford	10 00
Holt, S. H., Eufaula	5 00
Watson, Charles McAlpine, Eutaw	5 00
Wilkerson, Wooten M., Montgomery	5 00
Ward, Henry Bascom, Cuba	5 00
Total amount from Counsellors elect	$ 50 00

TO AMOUNT OF DUES FROM DELEGATES. Dr.

Blake, William, Blakes Ferry	$ 5 00
Bowie, Andrew, Benton	5 00
Bevans, Edward Gaudy, Gadsden	5 00
Carr, R. B., Gaston	5 00
Cartwright, Oliver B., Madison	5 00
Crawford, John P., Henry county	5 00
Davis, J. D. S., Birmingham	5 00
Dozier, J. C., Birmingham	5 00
Davidson, A. S., Gurley's Creek	5 00
Duggar, Henry C., Van Dorn	5 00
Emory, Aurelius G., Opelika	5 00
Ezell, William V., Carrollton	5 00
Ewing, Whitney Thomas Gadsden	5 00
Gravlee, William L., Jasper	5 00
Gordon, Frederick Elliott, Linden	5 00
Goodwin, Albert, Eufaula	5 00
Gay, William M., Davidson	5 00
Hunter, John J., Rockford	5 00
Dunklin, Edward Clayton, Collerine	5 00
Hughes, J. L., Cross Plains	5 00

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Holt, Simon Augustus, Eufaula	$ 5 00
Howard, Thomas G., Mulberry	5 00
Haney, Newton B., Jasper	5 00
Johnston, William S., Hamburg	5 00
Jernigan, Charles Henry, Enon	5 00
Kendall, William Q., King's Landing	5 00
LeGrand, John Clark, Weaver's Station	5 00
Macon, Joseph J., Hay's Store	5 00
McLain, David H., Mayesville	5 00
Maples, W. C., Bellefont	5 00
McCord, David Blackburn, Scottsboro	5 00
McLaughlin, James M., Springville	5 00
McConnel, Robert T., Steel's Station	5 00
Morgan, J. R., Calera	5 00
Pitts, J. S., Verbena	5 00
Roundtree, S. L., Hartselle	5 00
Sanders, Henry John, Clinton	5 00
Sadler, John Milton, Uniontown	5 00
Ward, Edward Burton, Greensboro	5 00
Williams, J. H., Columbiana	5 00
Withers, James J., Mooresville	5 00
Williamson, James L., New Port	5 00
Ward, Henry Bascom, Cuba	5 00
Wilkerson, Wooten M., Montgomery	5 00
Wyman, B. Leon, Tuscaloosa	5 00
Vines, George Washington, Dadeville	5 00
Total amount from Delegates	$ 230 00

TO AMOUNT OF DUES OF MEDICAL SOCIETIES.

Autauga	County	Medical	Society	$ 7 00
Barbour	"	"	"	8 00
Blount	"	"	"	9 00
Bullock	"	"	"	15 00
Bibb	"	"	"	3 00
Butler	"	"	"	7 00
Chambers	"	"	"	10 00
Conecuh	"	"	"	7 00
Choctaw	"	"	"	15 00
Chilton	"	"	"	10 00
Calhoun	"	"	"	12 00
Dallas	"	"	"	13 00
Etowah	"	"	"	6 00
Greene	"	"	"	21 00
Hale	"	"	"	10 00
Henry	"	"	"	7 00

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Jackson	County	Medical	Society	$ 10 00
Jefferson	"	"	"	13 00
Lee	"	"	"	10 00
Limestone	"	"	"	6 00
Lawrence	"	"	"	9 00
Lowndes	"	"	"	16 00
Macon	"	"	"	13 00
Madison	"	"	"	7 00
Marengo	"	"	"	10 00
Mobile	"	"	"	14 00
Montgomery	"	"	"	11 00
Monroe	"	"	"	13 00
Morgan	"	"	"	13 00
Perry	"	"	"	16 00
Pike	"	"	"	5 00
Pickens	"	"	"	5 00
Randolph	"	"	"	13 00
Shelby	"	"	"	5 00
St. Clair	"	"	"	8 00
Sumter	"	"	"	10 00
Tallapoosa	"	"	"	12 00
Tuskaloosa	"	"	"	10 00
Walker	"	"	"	10 00
Wilcox	"	"	"	15 00
Total amount from Medical Societies				$ 414 00

STATEMENT.

	Dr.
To amount of dues from Counsellors	$ 920 00
Counsellors elect	50 00
Delegates	230 00
Medical Societies	414 00
Balance on hand last report	7 78
	$1,621 78

	Cr.
By expense of session at Birmingham	$ 84 80
W. D. Brown & Co	1,109 45
salary of Secretary	100 00
per Secretary, postage stamps, Aug. 28th	10 00
postage stamps, Nov. 7th	10 00
postage stamps, March 6th	5 00
Joel White for Secretary	7 45
By expense of salary of Treasurer	100 00
postals, stamps, &c	7 00
	$1,433 70
Balance on hand	188 08
	$1,621 78

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The following Medical Societies have paid no dues: Colbert, Coosa and Crenshaw counties. Also, the following Counsellor, viz: J. J. Winn.

In my last report, as published, there are some errors: Cullman was published instead of Calhoun. The names of J. C. Parham and Joseph Bevans failed to appear. They should have both been in the report. John W. Blow, as a delegate, was omitted.

With these corrections there would be a balance on hand of $7.78. I did not read the proof, or these errors would have been corrected.

All of which, with the accompanying vouchers, is respectfully submitted.

W. C. JACKSON, M. D.,
Treasurer.

BUSINESS REPORTS OF COUNTY SOCIETIES.

Business reports from forty-two County Societies were handed to the Secretary and referred, under the rules, to the Board of Censors:

Autauga County.—Report rendered and dues paid. Represented by one Delegate, one Counsellor, one visitor, and Health Officer. Membership, 10.

Barbour County.—Report rendered and dues paid. Represented by one Delegate, two Counsellors, and Health Officer. Membership, 10.

Bibb County.—Report rendered and dues paid. Represented by one Delegate, one Counsellor, and Health Officer. Membership, 8.

Blount County.—Report rendered and dues paid. Represented by one Delegate. Membership, 14.

Bullock County.—Report rendered and dues paid. Represented by one Counsellor. Membership, 21.

Butler County.—Report rendered and dues paid. Represented by one Delegate, one Counsellor, and Health Officer. Membership, 22.

Calhoun County.—Report rendered and dues paid. Represented by two Delegates and one Counsellor. Membership, 22.

Chambers County.—Report rendered and dues paid. Represented by one Delegate. Membership, 11.

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Chilton County.—Report rendered and dues paid. No representation.

Cleburne County.—Report rendered and dues paid. Represented by two Delegates. Membership, 10.

Colbert County.—No report rendered; dues paid. Represented by one Delegate. Membership, —.

Choctaw County.—Report rendered; dues paid. Represented by one Delegate and one Counsellor. Membership, 15.

Conecuh County.—Report rendered and dues paid. Represented by one Counsellor. Membership, 9.

Coosa County.—Report rendered and dues paid. No representation. Referred to the Board of Censors for investigation. Membership, 12.

Dallas County.—Report rendered and dues paid. Represented by two Delegates, eight Counsellors, Health Officer, and six visitors. Membership, 24.

Elmore County.—Report rendered and dues unpaid. Represented by one Delegate.

Etowah County.—Report rendered and dues paid. Represented by one Delegate and one Counsellor. Membership, 11.

Fayette County.—Report rendered and dues unpaid. Represented by one Delegate. Membership, 11.

Greene County.—Report rendered and dues paid. Represented by two Delegates and one visitor. Membership, 25.

Hale County.—Report rendered and dues paid. Represented by two Delegates and one Counsellor. Membership, 12.

Henry County.—Report rendered and dues paid. Represented by one Delegate. Membership, 10.

Jackson County.—Report rendered and dues paid. Represented by two Delegates. Membership, 18.

Jefferson County.—Report rendered and dues paid. Represented by two Delegates, three Counsellors, three visitors and Health Officer. Membership, 32.

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Lamar County.—Report rendered; dues unpaid. Represented by one Counsellor. Membership, 7.

Lawrence County.—No report; no representation; dues unpaid. One visitor present. Referred to the Board of Censors for investigation. Membership, —.

Lee County.—Report rendered and dues unpaid. No representation. Passed.

Limestone County.—Report rendered and dues paid. No representation. Membership, 9.

Lowndes County.—Report rendered and dues paid. Represented by two Delegates, three Counsellors, and Health Officer. Membership, 17.

Macon County.—Report rendered and dues paid. Represented by two Delegates. Membership, 13.

Madison County.—Report rendered and dues paid. Represented by two Delegates and one Counsellor. Membership, 14.

Mobile County.—Report rendered and dues paid. Represented by two Delegates and four Counsellors. Membership, 25.

Monroe County.—Report rendered and dues paid. Represented by one Delegate. Membership, 11.

Montgomery County.—Report rendered and dues paid. Represented by two Delegates, six Counsellors, and Health Officer. Membership, 20.

Morgan County.—Report rendered and dues paid. Represented by two Delegates, one Counsellor, and Health Officer. Membership, 23.

Perry County.—Report rendered and dues paid. Represented by one Delegate and one Counsellor. Membership, 20.

Pickens County.—Report rendered and dues paid. No representation. Membership, 16.

Pike County.—Report rendered and dues paid. Represented by one Delegate, two Counsellors, and Health Officer. Membership, 10.

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Randolph County.—Report rendered and dues paid. Represented by one Delegate. Membership, 8.

Shelby County.—Report rendered and dues unpaid. Represented by two Delegates, two Counsellors, and Health Officer. Membership, 11.

St. Clair County.—Report rendered and dues paid. Represented by one Delegate, one Counsellor, and Health Officer. Membership, 13.

Sumter County.—Report rendered and dues paid. Represented by two Delegates and three Counsellors. Membership, 18.

Tallapoosa County.—Report rendered and dues paid. Represented by one Delegate, one Counsellor, and Health Officer. Membership, 20.

Tuskaloosa County.—Report rendered and dues paid. Represented by one Delegate and two Counsellors. Membership, 24.

Walker County.—Report rendered and dues paid. Represented by one Delegate, two Counsellors, and Health Officer. Membership, 12.

Wilcox County.—Report rendered and dues paid. Represented by one Delegate and three visitors. Membership, —.

[NOTE.—Reports of the status and work of the County Medical Societies here given, were called on the second, third and fourth days under the head of unfinished business, but are here recorded in their order for convenient reference.]

REPORT OF SPECIAL COMMITTEES.

Dr. Edward H. Sholl, of Birmingham, chairman of the committee continued from last session to act in conjunction with the Board of Censors in endeavoring to secure some appropriate legislation from the next General Assembly in regard to color blindness, read the following report:

To the Medical Association of the State of Alabama, to convene at Selma, April 8, 1884:

Your committee on "Color Blindness" would report that they have not taken any further steps in their work, as the Legislature does not meet till November, 1884.

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The preliminaries have been arranged and the law prepared in such form as will render its adoption practicable, and its action a success if enacted by the General Assembly.

Your committee would therefore respectfully ask to be continued, that they may act in conjunction with the Board of Censors in bringing the subject before the next General Assembly of the State of Alabama.

Respectfully,

EDWARD H. SHOLL, M. D.,
ROBT. D. WEBB, M. D.,
WILLIAM H. SANDERS, M. D.

On motion, the report was received and the committee continued.

Dr. E. H. Sholl, chairman of the committee on "Securing a Permanent Home" for the Association, continued from the Birmingham session, read the following report:

To the Medical Association of the State of Alabama, to convene in the city of Selma, Alabama, April 8, 1884:

Your committee on securing a permanent Home for the Association, would respectfully report—

That, in the summer and early fall of 1883, a letter—of which the following is a copy—was sent to the Secretary of every County Medical Society in the State of Alabama, connected with this Association:

DEAR DOCTOR—At the last session of the Medical Association of the State of Alabama, a committee was appointed to devise some plan to secure a permanent Home for the Association. The following is recommended, and your co-operation as a society is solicited.

It has already been agreed to by this county society, that each member of the county society be assessed annually one dollar. The amount at the annual meeting of the State Association to be paid over to the Treasurer, who shall be instructed to invest it in Alabama interest bearing bonds, until such time as the accumulated fund shall be deemed sufficient to accomplish the purpose.

Please advise me when action is taken.

Respectfully,
E. H. SHOLL, M. D., Chairman.

Jefferson County Medical Society takes action favoring the plan.

The Medical Societies of Greene, Lowndes, Perry, Randolph, Shelby and Wilcox do not concur, and oppose it.

Nothing has been heard from the other county societies.

In view of the above facts, the committee subscribe themselves,

EDWARD H. SHOLL, M. D.,
JEROME COCHRAN, M. D.,
JOHN J. DEMENT, M. D.

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Dr. Sholl moved that further consideration of this report be postponed until to-morrow under the head of unfinished business. Adopted.

AMENDMENTS TO THE CONSTITUTION.

Dr. Cochran, of Mobile, offered three amendments to the Constitution, as follows:

(1) That the first clause of Article 22 of the Constitution, which is in the words following, to-wit: "The President shall be elected for one year;" shall be so amended as to read as follows: "The President shall be elected for three years."

(2) That the second clause of Article 22 of the Constitution, which is in the words following, to-wit; "the Vice-Presidents for one year;" shall be so amended as to read as follows: "the Vice-Presidents for two years, but in such way that only one vacancy will occur annually by expiration of official term."

(3) That the Constitution shall be amended by striking out from the end of Article 30, the words, "The same person shall not be eligible for the presidency for two successive terms."

In offering these amendments Dr. Cochran said: I entertain an almost superstitious respect for our existing constitution; and I desire to insist with all the emphasis I am master of, that not even the slightest change should ever be made in it without the most earnest consideration. I have been discussing for several years in my own mind, and with various members of the Association, the amendments now offered. The conclusion I have reached is that the changes recommended onght to be made, but I am quite willing to allow the utmost weight to all arguments in support of any adverse opinion, and I am quite willing also to wait, not simply one year, as the constitution itself requires, before demanding the vote, but to wait two, three, or even five years, until times and circumstances and wider experiences than we have heretofore had, have convinced the Association that the proposed changes ought to be made.

I think there are various good reasons why the President's term of office should be extended, and only one reason why

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it should be restricted, as at present, to one year, with re-election prohibited. In my judgment the presidential office should be magnified as much as possible, made as honorable as possible, made as attractive as possible to able men. The president should not be a mere figurehead, should not occupy a purely ornamental position; but should feel that he is the commander in chief under the constitution and ordinances of the Association, of a great army of medical men—an army, which, with proper organization and discipline, and under competent leadership, is capable of grand achievements. If the organization and discipline are lacking the Association will be shorne of its power as Samson was when he lost his locks. If the wise leadership is lacking the Association may spend its strength in unprofitable, or even in mischievious enterprises. In our constitution elaborate provisions are made to secure this wise leadership and to perpetuate our discipline. We have our hundred Counsellors, a sort of Senate composed of our wisest and best. We have our ten Censors, a cabinet of active and responsible ministers. And now it seems to me that we want a powerful executive head, a commander-in-chief, as I have said, for the whole organization.

It is true that this will limit the number of Presidents and interfere with a principle much in favor with many. I mean, the principle of rotation in office. But for myself I don't at all believe in rotation in office. I don't believe in making offices and distributing them about to gratify ambitious aspirations. I want to get the right man in the right place and keep him there, for our advantage, not his. Of men of commanding capacity it can not be said that their name is legion. We may account ourselves as very fortunate indeed if we should ever have at one time in our college of Counsellors as many as half a dozen men really fitted to make good presidents. With our present system it is obviously impossible to have an able and efficient president more than semi-occasionally, and therefore, I desire to see our present system changed;

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and this is the proposition I want the members of the Association to think about.

Physicians, members of county societies, and other medical gentlemen present, on motion of the Senior Censor, were requested to register as such, and be accorded the privileges of the floor and debate during the present session. Adopted.

On motion of Dr. B. H. Riggs, of Selma, the Association adjourned at 3 o'clock, p. m., to meet in Harmony Hall at 8 o'clock, p. m., to attend the Annual Oration of Dr. William H. Sanders, of Mobile.

EVENING SESSION.

The Association met at 8 o'clock, p. m. The Orator was introduced by Dr. B. H. Riggs, President of the Board of Censors of Dallas County Medical Society, and delivered an address of one hour and forty minutes on "The Relation of the Public to the Physician," to an appreciative audience, composed of the entire membership of the Association, and a large number of the citizens of Selma.

The Association adjourned until 10 o'clock, a. m., tomorrow.

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THE PROCEEDINGS OF THE SECOND DAY.

WEDNESDAY, APRIL 9.

The Association was called to order by the President, Dr. M. H. Jordan, at 10 o'clock, a. m.

Under the head of unfinished business of yesterday, and miscellaneous business, the secretary read the following dispatch:

CHATTANOOGA, TENN., April 9, 1884.

To the Medical Association of the State of Alabama:

The Medical Society of the State of Tennessee sends greetings to the Alabama Medical Association. May you have a prosperous and harmonious session.

A. B. TADLOCK, M. D.,
President.

C. C. FITE, Secretary.

On motion of Dr. R. F. Michel, of Montgomery, the following answer was immediately telegraphed:

SELMA, ALA., April 9, 1884.

To the Medical Society of the State of Tennessee:

We thank you for your very kind greeting and consideration. Our meeting is a large one, and we earnestly hope that the society over which you preside is in a growing and flourishing condition.

M. H. JORDAN, M. D.,
President.

T. A. MEANS, M. D.,
Secretary.

Dr. E. H. Sholl, of Birmingham, moved that the Secretary be authorized to make these dispatches an official order of business. And it was so ordered.

Unfinished and miscellaneous business being still in order, Dr. Sholl, in urging his claims for the further consideration of a permanent Home for the Association, referred to the fact, that he had not been able to secure anything like a full reply from the County Societies. This, while showing indifference to the matter, was not such a positive expression of opinion as was to be desired to decide the subject.

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The considerations involved were of too great importance to be decided on at once. Haste was not desirable, and we could afford to wait twenty-five or fifty years, if necessary, to complete the work, but he insisted that it was well enough to approach the subject now, hopeful of a practical solution ultimately, even, perhaps, in his own day, when in his last pilgrimages to their annual reunions he might rejoice in being permitted to walk into their own Hall, fitted up thoroughly for all the practical workings of the Society.

The age was becoming utilitarian. Our annual meetings, migratory as they were, were in many ways taxing the hospitality of those on whom we had no claim, and even became burdensome by their repetitions, both to the profession and to the people.

As a minor consideration or advantage presenting itself, the relief which would come by our having a regular Home, where no entertainment would be expected, was a matter not to be lost sight of. If ours was a scientific body, its object was to carry out matters of vital importance bearing upon great interests. Localizing it would give it solidity, fixedness of purpose, and very great ultimate results, for from it would grow a library of great value to the profession, a museum of rare anatomical and surgical specimens, and every other thing illustrative of the genius of medicine.

In view of these facts, it is well worth trying to solve a problem whose completion would largely redound to the honor and welfare of the profession in our State.

Dr. Cochran moved that the whole scheme as proposed by the committee be at once disposed of, as far as the Association was concerned; and that Dr. Sholl be authorized to see what he could do in the way of getting up a special organization to accomplish his purpose. Adopted.

THE REPORT OF THE COMMITTEE ON BADGES.

Dr. B. H. Riggs, of the Committee on Badges, read the following report:

Mr. President—Your committee appointed at the Birmingham session of the Association, to devise some distinctive mark of merit for the several grades of counsellors, with instructions to report at this session, beg to submit the following:

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First—That for the grade of Grand Senior Counsellor, we recommend the adoption of a button, square in form, one half inch in diameter, with raised rim and tufted centre; color, cardinal red.

Second—That for the grade of Senior Counsellor, we recommend the adoption of a similar button in shape, differing only in size, being three eighths of an inch in diameter; color, dark bottle green.

Third—That for the grade of Junior Counsellor, we recommend the adoption of a simple rosette of rep ribbon, one half inch in width; color, scarlet.

In submitting the above report, your committee has conformed as nearly as possible to the designs offered by the originator of the resolution.

These are not intended as substitutes for the gold badges of the Grand Senior Counsellors, but No. 1 is designed as a fatigue badge for said grade, to be worn on ordinary occasions. It is supposed that this grade will wear their gold badges during the annual sessions of the Association and on other State occasions.

These fatigue badges are to be worn on the left breast at all times. The cost is trifling. They may be had of the secretary on application.

Respectfully,

T. A. MEANS, M. D.,
JEROME COCHRAN, M. D,
B. H. RIGGS, M. D.,
Committee.

The reading of this report elicited some remarks from Drs. Cochran, Seelye, Smith and Ketchum, but the report was finally adopted by the following vote. Ayes, 41; nays, 11.

Before entering upon the business next in order, the President stated that, as he had unintentionally omitted to add the name of Dr. James F. Heustis, of Mobile, to the list of regular reporters, sent to the Secretary for publication last year; and as Dr. Heustis was present with his paper, he would instruct the Secretary to call his name first in the alphabetical order of arrangement.

There being no further unfinished or miscellaneous business, the Secretary proceeded to call the schedule of regular reporters, and in the order named, viz:

(1) The Treatment of Wounds; by Dr. James F. Heustis, of Mobile. Read and referred to the Committee of Publication.

(2) The Uses and Abuses of Statistics; by Dr. John R. Hoffman, of Athens. Read by title and referred to the Committee of Publication.

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(3.) Hyperesthesia; by Dr. James T. Searcy, of Tuscaloosa. Read and referred to the Committee of Publication.

On motion of Dr. B. J. Baldwin, of Montgomery, a recess of five minutes was allowed the Association.

The Association convened and was called to order by the President at 1 o'clock, p. m. On motion, the order of business was suspended to allow Dr. William O. Baldwin, of Montgomery, to offer the following resolutions which, on motion of Dr. E. H. Sholl, of Birmingham, were unanimously adopted.

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

(1). *Resolved*, That the members of the Medical Association of the State of Alabama have watched with deep interest the progress of the struggle, which, for the past two years, has been going on in the New York State Medical Society, between the advocates of the ancient and established ethics of the medical profession as embodied in the Code of Ethics of the American Medical Association, and heretofore recognized and observed by all physicians of reputable standing in all the countries of the civilized world on the one hand; and on the other hand, the advocates of the so-called "New Code," or New York Code, which, in effect, proposes to degrade the medical profession by opening the way for professional association with irregulars and charlatans.

(2) *Resolved*, That all hope of the prevalence of wise and conservative counsels in the New York State Medical Society having been dissipated by its action at its recent session in Albany, no honorable course was left for the adherents of the established ethics except that which they have chosen to pursue, namely, to separate themselves from the demoralizing movement which they were unable to control, and to organize themselves into a new Association for the maintenance of the honor and dignity of the profession in their State.

(3) *Resolved*, That in doing this, these men—Flint, Jr., Gouley, Didama, Squibb, Rochester, Flint, Sr., Sayre, Fox, and their associates, have earned for themselves the thanks of the medical profession of the whole country; and we extend to them a hearty congratulation and fraternal good will.

(4) *Resolved*, That in order to signalize still further our appreciation of their recent action, that a copy of these resolutions, with the greetings of this Association, be forwarded by our President to Dr. H. D. Didama, of Syracuse, the President elect of the New York State Medical Association, wishing them prosperous fortunes and abundant success in the further development and fruition of their noble work.

(5) *Resolved*, That a copy of these proceedings be also forwarded to the Medical News and to Gaillard's Medical Journal, with a request that they be published.

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The Secretary resumed the reading of the schedule of Regular Reporters.

(4) The Present Aspect of the Germ Theory; by Dr. Samuel D. Seelye, of Montgomery. Read and referred to the Committee of Publication.

(5) Opthalmology and Otology for the General Practitioner; by Dr. Frank Tipton, of Selma. Read and referred to the Committee of Publication.

(6) A Plea for the Unborn Child, from its Medical, Moral, Statistical and Legal Standpoints; by Dr. Charles Whelan, of Birmingham. Read by the Secretary and referred to the Committee of Publication.

The Association now adjourned to 8 o'clock, P. M., to discuss, in special session, the subject of Vital Statistics.

EVENING SESSION.

The Association assembled in evening session at 8 o'clock, President Jordan in the chair.

There was a protracted discussion of the methods for collecting vital statistics and the comparative success of such methods in the several counties. Several of the speakers dwelt upon the difficulties which they had encountered in the prosecution of the work.

It appeared in several counties that little progress had been made, but in the larger number, the statements given indicated a very gratifying degree of success.

On the whole, the general feeling was more hopeful than ever before.

The Senior Censor stated that Mr. W. R. Works, photographer, desired to take a photograph of the Association in a body, and moved that the invitation be accepted, and a specified hour be named for the work, and that the artist be notified of the same. Adopted.

The hour of 9:30, A. M., to-morrow was then chosen.

The Association then adjourned until to-morrow morning 10 o'clock.

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PROCEEDINGS OF THE THIRD DAY.

THURSDAY, APRIL 10.

The Association was called to order by President Jordan at 10 o'clock, A. M.

Miscellaneous and unfinished business being next in order, Dr. E. H. Sholl introduced the following:

Resolved, That a committee of three be appointed to consider what means are best to promote and sustain the proper ethical relations between physicians and druggists, with a view of reporting the result of their conclusions at our next annual session.

Adopted. Committee: Drs. E. H. Sholl, of Birmingham, Isaac Huggins, of Newbern, Francis M. Peterson, of Greensboro.

The following letters from Dr. A. S. Garnett, of Hot Springs, Ark., and Dr. Gratz A. Moses, of St. Louis, Mo., Corresponding members of the Association, were read by the Secretary:

HOT SPRINGS, ARK., March 4th, 1884.

My Dear Dr: * * * I appreciate heartily the high honor the Medical Association of the State of Alabama has conferred upon me in making me one of its Correspondents, and sending me every year a copy of its proceedings.

There is no medical society in America which is doing better work; nor one which has done so much to elevate the standard of medical ethics.

The State Medical Association of Alabama is composed of gentlemen. It is not surprising, therefore, that their conduct should bear the impress of honor and refinement.

If it be possible, I will try to send you a short article upon some subject with which I am familiar. But I am very much pressed by professional engagements at present, and fear I may not be able to follow my inclinations.

With high regards, I am truly yours,

A. S. GARNETT.

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St. Louis, Mo., Feb. 27th, 1884.

Dr. T. A. Means, Secretary Medical Association of the State of Alabama:

My Dear Dr.—I intended writing you a long letter acknowledging the receipt of the Vol. of Transactions for 1883, which would have been in the nature of a paper, touching upon some of the discussions therein—especially one on "Gravid Nausia," and may do so yet, although I see you are likely to have a good paper on the subject by one of your members. If so, I won't send a paper. You will hear from me in some way.

I am always proud to call myself a corresponding member of the Association, and if I have not so far fulfilled any duties pertaining to the honor' it has been, not from lack of interest, but from the fact that I have as much to do as my health will permit, and I feel, also, very modest about offering anything for the consideration of men who write so admirably and exhaustively as your contributors have done.

I look forward with anticipations of great pleasure to the day when I can attend one of your meetings, which pleasure I have contemplated for several years.

With sincere esteem, believe me, yours truly,

G. A. MOSES.

VOLUNTEER AND MISCELLANEOUS PAPERS.

(1) Sympathetic Irritation of the Eye; by Dr. B. J. Baldwin, of Montgomery. Read and referred to the Committee of Publication. The paper was misplaced by the author.

(2) Hemorrhagic Malarial Fever; by Dr. Jerome Cochran, of Mobile. Read by headings and referred to the Committee of Publication.

Dr. B. J. Baldwin moved that a special meeting of the Association be called at 8 o'clock this evening to complete the reading and discussion of volunteer and miscellaneous papers—the session to last until fifteen minutes to ten o'clock. Adopted.

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THE OMNIBUS DISCUSSION.

The President announced as leader in the Omnibus Discussion, Dr. William H. Johnston, of Selma.

Dr. Johnston, in opening the discussion, said the first subject under the Omnibus Discussion that I will present to the Association is—

WHAT IS THE DIFFERENTIAL DIAGNOSIS BETWEEN TYPHOID FEVER AND A CONTINUED MALARIAL FEVER?

I propose this subject for discussion because there seems to be amongst practicing physicians of the present day a wide difference of opinion as to what constitutes typhoid fever. I propose now to give a tabulated statement of the marked symptoms in each and contrast them:

TYPHOID FEVER.	MALARIAL FEVER.
Arises from Typhoid germ or poison and does not originate spontaneously.	Arises from miasmatic poison, heat, and moisture, absolutely necessary for its production.
Slow and insidious in its approach, patient feels languid, some headache, pain in limbs, flushes of heat and chilly sensations; will seek the fire. These symptoms continue for two or three days, and the patient takes to bed.	The approach is sudden; there may or may not be a well marked chill; within a few hours after chill or chilly sensations, fever comes on and temperature rapidly rises to 102 degrees or higher.
Epistaxis frequently an early symptom.	Not present.
Temperature during first week is characteristic. The evening temperature is from one-half to one degree higher than the morning. The temperature, as a rule, rises one degree daily for the first four days. It is generally highest by 6 p. m.	The temperature follows no typical range; is not uniform; may be high in morning and lower in the afternoon. If the temperature rises to 103 or 104 the first 24 or 48 hours, we can throw out typhoid fever.
Sub-acute bronchitis always present.	Not present in malarial fever.
Tongue red at tip and around edges, dry in centre. Later on dry all over and red, sometimes encrusted and cracked; sordes on teeth.	Tongue white furred, large and flabby, with impressions of teeth; may have yellowish fur over it.

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Pulse rarely reaches 120 per minute before the end of the first week.	Pulse may go to 130 during the first 48 hours.
Diarrhœa, resembling pea soup; tympanites, tenderness on pressure and gurgling in right iliac fossa.	Constipation the rule; no tenderness on pressure over abdomen.
Delirium, deafness, more or less, countenance pale and of leaden look, eyes dull; has to be aroused to answer questions.	No delirium, no stupor, no deafness; eyes bright; will answer questions promptly as a rule.
Rose colored, slightly elevated spots make their appearance on the 7th or 8th day the characteristic eruption of the fever. It appears in successive crops and lasts from 8 to 14 days—will disappear on pressure.	No eruption; if any, it does not disappear on pressure and lasts throughout the fever.
Hemorrhage in the advanced stage rarely occurs except from sloughing of intestinal glands.	If hemorrhage occurs, it comes from mouth, nose, urinary organs or bowels.
Rarely occurs after 50 years of age; may occur any where if the germ is carried to the place.	Occurs only by a residence in miasmatic regions or by exposure to the misasmatic poison.

The eruption; the low muttering delirium usually present; the dull, stupid expression of countenance; the deafness; the diarrhœa, which is almost universally present, and then the characteristic rise in the temperature, ought to enable us to recognize typhoid fever from any other. With these remarks I leave the subject to the Association.

In the discussion following—

Dr. B. H. Riggs, of Selma, said: He had been practicing medicine in Wilcox and Dallas counties about twenty-five years, not quite as long as his distinguished friend from Jefferson county, who had just preceded him, and had seen much of the fevers that prevailed in these counties, and he must admit that it was difficult for him to diagnose malarial from typhoid fever in the beginning of the attack; in fact, it was impossible for him to do it. It was comparatively easy in typical cases of these diseases, but the fact is, there are more anti-typical cases than typical ones in this country. It might be the rule for typhoid fever to run the regular course described by Wunderlick as to temperature, rose spots and weekly periods, as in the North and in Europe,

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but it was not so much the case in middle Alabama. There was no more reason why typhoid fever should not vary in grade and type than there was that scarlatina, rubeola and meningitis and all the specific diseases should. It was well known that we could have small-pox, discrete, and confluent; severe and mild, and even without any eruption (variolus fever), and measels without the rash, *mobilli line morbillo.* It was no doubt true, as expressed by Dr. Day, of London, that we had typhoid fever with and without the rose-spots, with and without head symptoms, with constipation and with diarrhœa, etc.; that you might have from one rose spot to thirty; and these spots might be on the back or chest as well as on the abdomen—had lost a patient with typhoid fever last month, on the twenty-fourth day of the disease, from hemorrhage of the bowels, whose bowels were constipated during the whole attack—and so with another case last summer.

He thought it was the safest rule to attack your fevers, when called to them, at first as if they were malarial fevers, using a mercurial purge even if indicated, and then following with quinine. If the quinine treatment, kept up for two or three days, did not stop the fever, it was safe to call it typhoid, and treat it on the expectant plan. You lose nothing by this course. If it is malarial remittent fever, you cut it short. If it is typhoid you have not injure the patient. By it you have cleared your conscience, and at the same time cleared up the diagnosis. He did not believe in continued malaral fever; but regarded all our protracted fevers here as typhoid fever, and so called themd

Dr. P. G. Trent, of Rock Mills, said: I accept as correct the differential diagnosis as given by Dr. Johnston. I see no plausible reason for difficulty in the solution of this subject. Neither do I see why we should not be able to promptly make the diagnosis when called to a case of either of these fevers.

As to the fourth, fifth, or sixth day of typhoid fever, I am not able to define them, for the fever is so insidious in

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its approach that the patient is rarely able to tell us when he was first taken.

In continued malarial fever, on the other hand, the patient is able generally to tell us just when he was first taken, for this fever is not so treacherous in its invasion.

During the five years of my practice in Virginia, I saw a great many cases of typhoid fever, and when I say typhoid fever, I mean the enteric fever of Wood. I see quite a difference between the typhoid fever I met with in Virginia, and the fever called typhoid by my medical brethren in Alabama. In Virginia we could not find a second attack of typhoid fever in the same individual. In Alabama I find my medical friends having almost annual attacks in the same individuals, of what they call typhoid fever.

In enteric fever we have the pea-soup diarrhœa, as stated by Dr. Johnston, but I have not seen it in what my medical brethren call typhoid in Alabama. During my twelve years practice in Alabama I have not seen a single case of typhoid fever in Randolph county, but many cases of continued malarial fever. I regret the term typho-malarial fever, and I have accepted it as a kind of compromise with my professional brethren.

Dr. A. C. Matheson, of Camden, said: In 1844 the prevailing fevers of Wilcox county were remittent and intermittent malarial fevers. In the fall of 1845 two cases of fever that were prolonged, after trial of quinine, to three or four weeks, with many of the symptoms of typhoid, were treated. Since then all cases of fever which continued beyond the second week in spite of a thorough trial of quinine for three or four days, have been called typhoid. The "continued malarial" fevers have not been observed as of common occurrence until the last six or eight years. If the fever continues after cinchonism faithfully kept up for two or three days in the beginning of the attack, it shows that it is not a malarial fever. It is typhoid, even if all the typical symptoms are not present.

Case.—Patient 28 years; female, white; fever thirty-five

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days; chill and fever; first day, quinine, 40 grains, from 4 P. M., 12 P. M. Second day, fever; quinine, 40 grains. At the end of the first week, remission of symptoms. Second week, return of fever; quinine kept up three days. Third week, same. Fourth week, expectant. Fifth week, expectant. On the thirty-fifth day, sudden pain in abdomen, confined to one spot; peritonitis and death. This case was called typho-malarial fever by Dr. L. W. Jenkins. He considered it a well marked case of that form of fever. He left the patient in my charge on the thirty-fifth day and she died on the thirty-sixth day with symptoms of perforation of the intestines.

Dr. S. A. Holt, of Eufaula, said: The gentlemen who have preceded me upon this question, have certainly graphically drawn typical cases of typhoid and malarial fevers, and the ear-marks are so unmistakable that they can be differentiated without any trouble.

But they do not seem to recognize a typho-malarial, or continued type of malarial fever. That there is a continued malarial fever, both endemic and epidemic, prevailing in our southern land, differing in many respects from typical cases of either typhoid or malarial fever, I think will be admitted by a majority of the profession. This fever is not only of a remittent, but of an intermittent continued type, lasting from three to four weeks, with very great liability to relapses. I have a clinical record of over thirty cases of this fever, which I propose reporting to this Association at some near future time, and I think I can demonstrate beyond the shadow of a doubt, that there is a hybrid fever, differing from typical cases of either typhoid or malarial fevers, both as to fever waves and pathological bowel complications; but combining the two, in its different stages, malarial fever with typhoid fever grafted upon it. I contend that the two epidemic diatheses (typhoid and malarial), co-exist in the same person at the same time, producing a continued malarial fever, *sui generis.*

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In our Southern land during the hot months, particularly in malarial sections, nearly all the people have appropriated more or less of this poison, and thus acquired a malarial diathesis. From this cause, fevers and other diseases spring, the result of the application of innumerable exciting causes. Now it is fully established by recent scientific researches, that vegetable decomposition does not occur *only* in the presence of heat, moisture, and of oxygen, but that it is due to the vital activity of low organisms, for the evolution of which these agents are essential.

We are also compelled to admit that living micro-organisms are concerned in the development of typhoid fever; why not, then, a specific bacillus in the production of continued malarial fever?

I believe that malaria may be associated with the specific poison of typhoid fever in such a way as to produce typical forms of these diseases, and it seems to me that the prevalent fever of our land is, in truth, one of these mixed or hybrid forms.

On motion of Dr. Heustis, of Mobile, a recess of ten minutes was taken. Upon re-assembling, Dr. Johnston resumed the reading of his papers.

SECOND SUBJECT.

"WHAT ARE THE BEST METHODS FOR BREAKING UP A CONTINUED MALARIAL FEVER?"

In the first place, if the tongue is but slightly coated and the bowels are open, two-thirds to three-fourths of the cases can be arrested by giving one large dose of quinine—say for an adult not less than twenty-five grains at one dose. When this fails, give a good calomel purge, and if the "actions" are offensive, and some five or six, then give again the quinine in the same dose. If this fails, give veratrum until the pulse falls to seventy, hold it there for twenty-four hours, and then repeat your quinine. If the

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fever still persists, I use profuse diaphoresis from bath and blankets, and then the quinine again. After the fever has been arrested, quinine must, of course, be given in smaller doses for a week or ten days.

Dr. J. M. Godfrey, of Sumterville, said: The difficulty in these cases is in determining whether we have a fever of malarial origin or one of thermal continued fevers. Many cases of fever, originating doubtless from animal emanations, whether a modified form of typhoid or a distinct type which has not been accurately recognized, are met with among us which cannot be cut short, and which, as has been remarked, are difficult to distinguish from an adynamic stage of remittent. But the diagnosis can usually be made by a careful attention to the history of the case, and above all, by the clinical thermometer. This being determined, a malarial fever, although it may have been neglected in the early stage or had been badly treated, will yield to the judicious use of quinine. But one which the discriminating use of this remedy fails to influence beneficially cannot, in my opinion, be called malarial.

THIRD SUBJECT.

UNDER WHAT CONDITIONS IS THE INDUCTION OF PREMATURE LABOR ALWAYS JUSTIFIABLE, AND IS ABORTION EVER JUSTIFIABLE?

1st. Nausea and vomiting, in the latter half of pregnancy and after the viability of the fœtus, which threatens the life of the mother. This would be a justifiable procedure. 2d. All deformities of the pelvis where the antero-posterior diameter is not greater than three inches. 3d. In placenta previa, after the eighth month, it is much safer to the mother to induce labor. A dangerous hemorrhage may occur at any time by the delay, and the mother's life be sacrificed. 4th. In fatty degeneration of the placenta, where for two or three successive pregnancies the child has been still-born, say the movements of the child have been felt up to the eighth

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month and gradually cease after that time, then in the next pregnancy, labor should be brought on at the eighth month. 5th. In all chronic diseases of the mother where her life will not extend to full term of pregnancy. 6th. Sudden death of the mother from any cause after the 6th month, if the fœtus is still living.

We now come to the question, is abortion ever justifiable? In reply to that we offer the following propositions, viz: 1st. There is not a doubt in the minds of any that there have been cases of "gravid nausea" which have died, when left to nature, from inanition or exhaustion. There are none who will deny this, if there are, they do so in defiance of facts. 2nd. There is no question that there have been cases which no remedial measure relieved, and that have died when the best known remedies were used for relieving them. 3rd. There is no question that some have died when rectal alimentation was faithfully adhered to. 4th. There is no question that when abortion is produced that all symptoms of nausea and vomiting will disappear within forty-eight hours.

5th. There is no question in my mind that nine patients out of ten will recover if abortion is produced, *and if the time for doing it has not been delayed until the vital powers are exhausted.*

If these propositions be true, and I think there are few, if any, who can refute them, it seems to me the duty of the physician is as plain as the noon-day's sun. It seems to me that if they are true, of which I have no doubt, the only question left for solution is, shall we stand by, and let the life of a wife ebb away, because of an embryo that is too sacred for us to touch? Yet it will die, also, when the wife's heart ceases to beat.

Those who contend that the operation is never justifiable rest their arguments upon two points, viz: That rectal alimentation, when properly administered, will bring them through in almost every case. But they are honest enough to admit that it does sometimes fail. The other point they

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make is, that when the operation is performed fully as many or more die as get well.

Then if we follow what they advise when rectal alimentation fails, we are to leave the case to nature. God forbid that you or I or any other physician, should stand by and fold our arms when science has pointed out the way in which life may yet be preserved. There is no great danger in the operation, and the danger is not from the operation, but from having *delayed it until the vital powers are exhausted.* I leave out the moral question entirely in this argument. It is my opinion that when every known remedial measure has been faithfully tried and failed, that he who then neglects to give the woman her only chance for life is criminally negligent.

Dr. Pugh H. Brown, of Troy, said: Many years ago, after due consultation, the writer induced artificial abortion for gravid nausea. It was decided that unless this course was pursued the patient could live but a few days longer; and it was confidently anticipated that the accomplishment of the abortion would end our troubles, when in fact they had but begun. The excessive nausea increased; metritis, cellulitis and pelvic peritonitis successively appeared, and a pelvic abscess formed which, in due time, discharged into the rectum. Notwithstanding all this the woman lived, and, though broken down in health, with shattered constitution, she still lingers, a monument to the ignorance and bad practice of her attending physicians. Ample time has intervened for reflection, and the writer hopes he has profited by the mistake. The result of his reasoning is as follows: If the woman could survive all these superinduced troubles, how much better it would have been had she been properly cared for with simply gravid nausea?

When weary watching runs into weeks and months it is calculated to result in fixed convictions with regard to such troubles. The convictions of the writer in the case mentioned, strengthened as they have been by the subsequent management of cases equally as difficult, satisfy him of the

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utter inutility, if not criminality, of induced abortion in gravid nausea.

Such cases are of infrequent occurrence, but when they do appear the practitioner may expect trouble. Incessant vomiting for weeks, temperature running as high as 103 degrees daily, pulse 120, dark discoloration under the eyes, with fetid breath, fills the picture of a severe case of gravid nausea.

Ordinary cases of gravid nausea are of little consequence, and merely require the bowels to be regulated and the nervous system quieted by the exhibition of the bromides in combination with tincture of nux vomica.

In the severe class of cases, the treatment found most successful by the writer is as follows: Moving the bowels, which are usually constipated in the beginning, by the exhibition of a full dose of calomel, thus disgorging the liver and putting the rectal circulation in the best condition for rectal alimentation, which is of prime importance, as the only means for the sustentation of the patient. Quiet and sleep are necessities, and seem best secured by the use of morphine and atropine in combination hypodermically administered. Nervous tone or power is easily restored by strychnine given hypodermically, the use of which should be persisted in until the physiological effect of the remedy is produced. The amount of morphine and strychnine which patients bear under such circumstances is surprising. In the management of these cases the local treatment of the os and cervix should by no means be neglected.

Dr. Job Thigpen, of Greenville, said: I have seen a good many cases of nausea caused from gravid uteri during the last twenty-eight years. I do not think I ever had a case that died pregnant from gravid nausea, nor have I ever induced abortion for its relief. That cases do occur in which abortion should be induced I will not pretend to deny if we knew when to act, but that is a hard point to decide. I treated a case last year that I think might have been

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saved if abortion had been induced soon after she became pregnant, but I did not think it was necessary. She had been pregnant twice before, and although she suffered greatly each time, she carried both children to full term, and both were born living. Having conducted her through the two previous pregnancies, I hoped to be able to do so in this also. Sometimes she was perfectly prostrate, at others not so bad. She once improved sufficiently to be up a part of her time, and I visited her less frequently. She took a backset and I was called to see her again; she continued to grow worse. I obtained counsel; it was decided that the time for the induction had passed. She afterwards improved, at least was not so sick for two or three days. On the morning of the day that she died I hoped that her condition was more favorable, but abortion came on spontaneously in the evening, in my absence, and she died from hemorrhage after two and a half months vomiting.

Should abortion have been induced while there was hope of going to term? How do we know when to act? And is the induction of abortion free from danger? All will agree that it should not be induced while there is hope of going to term. If you wait until you are satisfied that nothing but the induction of abortion will save your patient, there is great danger, in my opinion, of hurrying her to the grave. I would rather let my patient die than to kill her. If abortion is encouraged for gravid nausea, I fear a great many cases will be induced unnecessarily. I have twice induced premature labor, after consultation, when it seemed impossible for the mothers to go to the full term and live. Both cases were about, or a little after the eighth month, both mothers had good recoveries, and both children lived, and are yet living. I do not think we should ever act in such cases without the advice of a competent consultant, and be sure we are right before we assume such a grave responsibility.

Germane to the subject now under discussion, Dr. Jerome Cochran said that in view of the importance of the question

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at issue, especially in its medico-legal bearings, he would offer the following:

(1) *Resolved*, That the moral and medico-legal questions involved in the practice of induced abortion for the relief of nausea gravidarum, are of such character as to place the physician in a position of great responsibility and embarrassment.

(2) That the testimony elicited by the discussion of this question in this Association, shows clearly that, however distressing the symptoms may be, and however desperate may be the condition of the patient, the immense majority of the cases recover without resort to the practice. In a word, that the natural tendency is to recovery, and survival to both mother and child.

(3) That the induction of abortion necessarily results in the death of all the children, and also in the death of a larger percentage of the mothers than when interference of this sort is avoided.

(4) That in view of all these facts, it is the opinion of the Association that the necessity for the induction of abortion in these cases, is of extremely rare occurrence and ought not to be resorted to without the gravest consideration; and even then not without consultation, when consultation can be had.

He therefore moved the adoption of the resolutions.

Dr. Courtney J. Clark, of Selma, said: It appears that it is intended to include in this discussion Dr. Whelan's paper, the question of the leader, Dr. Johnston, and Dr. Cochran's resolutions.

Dr. Whelan's paper is so lengthy that it would be impossible to review it *in extenso* within the limits of the omnibus discussion. As to the main question, my experience covers a practice of many years. During that time I have met with an occasional case in which the vomiting from pregnancy had reduced the patient to such a degree of inanition, with irritative fever, as to render, in my judgment, all prospects of relief hopeless, except the induction of abortion. The grave question then arises, shall we let the woman die, or shall we save her life by emptying the uterus. If she dies the fœtus dies with her, and two lives are sacrificed. If we empty the uterus we may, and usually do, save one life.

This question has been earnestly discussed by many of the most learned and conscientious members of the profession; and, by such men, it has been decided to be the

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duty—a duty that cannot be conscientiously avoided by the attending physician, when fortified by a proper consultation, to save the mother. Playfair, for instance, says that "the value of artificial abortion has been abundantly proved," and "when it has failed it has been on account of undue delay."

It is only a short time since I have been under the necessity of deciding and acting on this grave question. The subject was an amiable and lovely woman, surrounded by a family of little children and an affectionate husband. Her life to them was of the utmost importance—an object of the most tender solicitude. All the means suggested by experience or recommended by the books had failed to arrest the vomiting. Rectal alimentation, after serving for a short time, had signally failed on account of the irritability of the rectum. She had retained no food for many days; was becoming emaciated; pulse over 130; peculiar offensive odor of body strongly developed. After proper consultation, labor was induced, and she carried safely through the ordeal with speedy relief from nausea and inanition. To-day she is a living, useful woman, a happy mother and wife. Under the teaching of the gentlemen on the opposite side of this question, she, with her fœtus, would be in the cemetery. Perhaps no graver responsibility ever falls on the physician than this class of cases. But, gentlemen, the people trust their lives to our care, from the Emperor in his palace to the peasant in his cot, and we should have the courage to discharge our duty. We should be less than men, and unworthy such sacred trusts if we shirked it. When such an emergency arises who is to decide? The State has authorized us, and the colleges we graduated at have authorized us; and all intelligent protestant communities justify physicians in destroying the fœtus to save the life of the mother, where both cannot be saved.

Dr. Whelan, in his paper, has emphasized the divine command, "Thou shalt not kill." And yet, the Israelites, to whom this command had but recently been delivered amid

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the thunder and smoke of Sinai, were directed by the same authority, to go up into the land of Canaan, destroy the inhabitants, and possess the land. And, Joshua, when he had captured Jericho, utterly destroyed all that was in the city, "both man and woman, young and old, and ox, sheep and ass, with the edge of the sword." Again Jael, who decoyed Lisera into her tent under a show of hospitality, drove a nail into his head while sleeping and killed him, and is for that pronounced "blessed among women." The mistake of Dr. Whelan comes from a too literal interpretation of Scripture. He should understand it, "thou shall not kill wantonly, or maliciously, or for any selfish or base purpose;" for the subsequent teaching of the Divine Book shows that under a variety of circumstances it may become justifiable to take human life.

The Senior Censor is not much given to the sentimental, yet his bowels of compassion are moved over "the slaughter of the innocents," which, he says, "is dreadful beyond all possibility of expression;" as if medical men were given to killing fœtuses for amusement, or, the profit of the thing. This may apply to the professional abortionists, but hardly with propriety, to the conscientious physician who induces abortion to save the life of the mother, when otherwise both mother and child would be lost.

And now, a few words as to Dr. Cochran's resolutions. I understand this question was discussed at Birmingham last year and has been adjourned over to be renewed here.

In the meantime, Dr. Whelan has prepared an elaborate paper. The gentlemen have had a whole year to prepare in, and have, no doubt, ransacked medical literature, hunted up statistics, and have even consulted lawyers.

No one will object to the 4th resolution. But Dr. Cochran is a fine parliamentarian, and has refused to have his resolution severed and voted upon one at a time. Perhaps if they fail here, they may be brought up again at the next meeting, for the Old Guard, though whipped sometimes, "never surrenders."

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The last resolution reads very nicely, and we are all ready to endorse it; but there is "a cat in the meal tub." The adoption of the entire set of resolutions would be an authoritative condemnation of the operation by the Association, viz: "That the induction of abortion necessarily results in the death of all the children and also in a larger per centage of the mothers than when interference of this sort is avoided."

If this be true, the procedure should be condemned. Now, sir, I contend that even such few statistics as have been presented here do not sustain this resolution—but, indeed, they are so slim as to be comparatively worthless in deciding such a momentous qustion. Even such as they are, they are in favor of the operation.

Playfair says, "the value of artificial abortion has been abundantly proved."

He further says: "Gueniot collected 118 cases of this form of disease out of which 46 died; and out of the 72 that recovered, in 42 the symptoms only ceased when abortion, either spontaneous or artificially produced, had occurred."

I can call to mind three cases that have died from the effects of vomiting without interference, but one that died after premature labor was induced, and three cases that recovered promptly after forced abortion. I might advert to the frequency with which criminal abortion is practiced successfully in proof of the comparative safety of the operation under favorable circumstances. Out of hundreds, a death of the mother is a rare thing. The operation has been endorsed by the leading obstetricians of England and America—by Barnes and Playfair, T. G. Thomas, Munde, Barker, Sims, Lusk, Polk and others. Indeed, I had thought the propriety of the operation to be well settled among medical men, except where opposed on religious grounds, as stated by Dr. Cochran in the Birmingham discussion. I have the greatest respect for the religious convictions of others—that is, when they do not attempt to thrust them on me. We

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are told that the Catholic Church has put the seal of condemnation on the procedure. This is not the first time the Catholic Priesthood have invaded the arena of science, assuming authoritatively to settle scientific questions, as any one may learn by reading Draper's Conflict of Religion and Science.

It has been urged that we cannot estimate the value of the fœtus. It might make a great and good man. Yes, and it might make a knave or a scoundrel; and taking the average of poor humanity, the chances are largely in favor of the latter.

You are called upon to adopt these resolutions as expressive of the sense of this body, based upon statistics adduced here.

It will always be difficult to work out this problem by the numerical method. Each case has its peculiarities. In each case the physician will have to decide the questions, Have I waited long enough? Will this woman die if I leave her alone, or would she recover? When he induces abortion the latter question will remain forever unanswered, except by reasoning on probabilities. Figures will never settle it. We must act on our best judgment and not let the golden opportunity slip to save a human life sacredly entrusted to our keeping. The question in a nut shell, is not to decide between the comparative value of the life of the mother and the life of the fœtus—but *both* are doomed to die—and can we save one, the mother, by destroying the foetus?

Gentlemen, I trust that this proud Association of Alabama, that has taken the lead of late in elevating the profession, will not go back on its record, and stultify itself by condemning a procedure that has been approved, endorsed, and practiced by the leading medical men in this country and Europe, and has received the sanction of the State and of society.

Dr. James T. Searcy, of Tuskaloosa, said: That whilst he concurred in the main in the resolutions just offered by Dr.

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Cochran, he was unwilling to accept them as a whole, as such action was a personal condemnation of those members of the profession who had induced abortion from purely honest motives. He would therefore vote against them.

After a somewhat spirited discussion on the adoption of the resolution, the motion was lost by the casting vote of the President.

Dr. E. H. Sholl, of Birmingham, voting in the negative, moved a reconsideration of the vote just taken. Adopted.

Dr. James M. Godfrey, of Sumterville, then moved as a satisfactory solution of the question, that that portion of Dr. Whelan's paper, which seemed to be the objective point in the discussion, relating to statistical data, be stricken out. Adopted.

Thereupon Dr. F. M. Peterson, of Greensboro, moved that a committee of three be appointed to consider and report on Dr. Whelan's paper, with special reference to a fuller collection of statistical data, at the next meeting of the Association. Adopted. Committee: Dr. F. M. Peterson, Greensboro; Charles Whelan, Birmingham; W. H. Johnston, Selma.

The Association now adjourned at 3 o'clock, p. m., to meet in evening session at 8 o'clock, p. m.

EVENING SESSION.

The meeting was called to order by Dr. M. H. Jordan, President, at 8 o'clock.

The secretary proceeded to call the schedule of volunteer and miscellaneous papers, postponed by resolution of Dr. B. J. Baldwin at the morning session.

(3) Carbonic Acid Gas in Intestinal Obstruction; by Dr. C. C. Lloyd, of Greenville, with report of one case by Drs. Job. Thigpen and Joel C. Kendrick of Greenville. Read by title and referred to the Committee of Publication.

(4) Treatment of Pneumonia in Alabama; by Dr. B. H.

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Riggs, of Selma. Read and referred to the Committee of Publication.

(5) Icterus Gravidarum; by Dr. E. H. Sholl, of Birmingham. Read and referred to the Committee of Publication.

(6) Placenta Previa, in Relation to unavoidable Hemorrhage; by Dr. R. D. Webb, of Livingston. Read by Dr. E. H. Sholl and referred to the Committee of Publication.

(7) A Report of two cases of Tracheotomy; one case of Laryngo-Tracheotomy for the removal of foreign bodies from the Air Passages; by Dr. Samuel M. Hogan, of Union Springs. Reported by Dr. R. H. Hayes, of Union Springs. Read by title and referred to the Committee of Publication.

The omnibus discussion was now resumed, Dr. Johnston, leader, reading his

FOURTH SUBJECT.

IN NATURAL LABOR, IS IT BEST TO ABOLISH ALL PAIN POSSIBLE WITHOUT RETARDING LABOR?

The less pain we have, the less shock will we have to the nervous system. As a consequence, the recovery will be speedier.

There can be no possible good in suffering pain in labor when it can be avoided or abolished without in the least retarding labor or incurring any additional risks.

The long continuance of pain will exhaust the woman and result in a powerless labor in not a few cases.

A woman with strong nerves has, after a difficult and painful labor, often had her nervous system completely upset, and been years regaining her former nerve power.

A few become nervous and resist the pains in every way, when a hypodermic of morphine quiets beautifully, blunts the sensibility so as to enable her to bear the pain, and hasten labor.

I leave the subject for your discussion.

This subject was discussed by several members of the Association, but all have failed to send me their remarks.

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FIFTH SUBJECT.

WHAT IS THE SAFEST, SPEEDIEST AND LEAST PAINFUL CURE FOR HEMORRHOIDS?

I will mention the different methods of treatment first. For their cure fuming nitric acid has been used. This, in my hands, has been painful. The ligature I have also used, and found it painful.

The best treatment, so far as my experience goes, I have derived from carbolic acid injections. This cures quickest and with the least pain.

I think electrolysis would perhaps be the best of all, though I have never used it.

Dr. P. G. Trent, of Rock Mills, said: I regret, Mr. President, to have to state that the carbolic acid treatment of hemorrhoids in my hands has not been painless, but on the other hand, productive of considerable pain. I have used it in only three cases, however, and the pain might have been a result of my awkwardness in operating, but the treatment was entirely successful in all.

I used the pure liquid acid—arming my syringe with seven drops for each pile. I am well pleased with the treatment, and the pain produced is soon gone, and my patient speedily resumes his business. My confidence in the carbolic acid treatment is such that when I use it, I feel assured that the pile will disappear.

SIXTH SUBJECT.

WHAT IS THE BEST SUBSTITUTE FOR OPIUM OR ITS PREPARATIONS WHERE THEY ARE INDICATED AND CAN NOT BE TOLERATED?

In my hands to induce sleep, chloral and bromide of potassium I have found an excellent remedy. Sometimes whisky, lager beer or any of the malt liquors will act well.

To relieve pain, a combination of morphine and atropia will be tolerated when no preparation of opium alone will do anything but harm.

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In acute mania hyoscyamin will quiet when all other remedies have failed.

Dr. Peter Bryce, of Tuskaloosa, (Superintendent of the Hospital for Insane), *said:* In the medical treatment of insanity, the question under discussion assumes a greater importance, perhaps, than in any other branch of medicine. Diseases of the brain, resulting in insanity, are usually so protracted in their duration that it would not be safe, even if it were advisable, to administer opium or any of its preparations. There would be great danger of establishing the opium habits, which would be almost as bad as the disease for which it was given.

But opium is not always efficacious in allaying nervous disturbance, even if there were no other objections to its use, and we therefore seldom administer it, except in occasional doses, in the treatment of diseases of the mind. In almost all the forms of mental and psycho-motor excitement coming under our observation, we find efficient substitutes for opium in the long list of nervous sedatives presented to us in the pharmacopœa, of which, among the most prominent, are chloral, hyoscyamus, conium, cannabis indica, and the bromides. These, either singly or in combination, are useful remedial agents in allaying cerebral excitement and promoting sleep. They are to be given, however, in full doses three times a day, and may be continued for a length of time, and suddenly discontinued, without bad results. The hyoscyamus, conium, and cannabis indica are administered in the form of fluid extracts, and to secure uniformity in their preparation we use the fluid extracts manufactured by Dr. Edward Squibb, of Brooklyn, N. Y. Fluid extract of hyoscyamus three times a day, combined with chloral and bromide of sodium at night, is a favorite prescription in the ordinary forms of cerebral excitement, but when the latter is attended with great restlessness and motor activity, we administer the fluid extract of conium either alone or in combination with the hyoscyamus and chloral. A combina-

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tion of the bromides with chloral, hyoscyamus and conium, makes an effective shot-gun preparation which is occasonally justified by the severity of the syptoms.

Properly administered, these remedies, either alone or in combination, seldom fail in producing the desired results. I rose, however, to call your attention more especially to a preparation, which, though not new to the profession, has only comparatively recently been brought into general use, in the treatment of insanity. I allude to the amorphous and crystallized alkaloid of hyoscyamus—*hyoscyamin.* This is a powerful remedy, and as a hypnotic is usually very certain and efficacious. Of the two preparations of the drug, we prefer the white crystals prepared by Merc and sold by Squibb, of Brooklyn. It is used exclusively hypodermically, and the solution is prepared by dissolving one grain of the alkaloid in two drams of a mixture of equal parts of alcohol and water. The usual hypodermic dose of the above solution is from five to fifteen minims once or twice a day. It is a depressant or excitant of the psychical and psychomotor centers of the cerebrum according as it is administered in large or small doses, and hence the importance of determining the proper dose. I would not advise the use of this powerful drug in the treatment of the ordinary forms of neurotic trouble. In mania and epileptic and alcoholic delirium it can be used with advantage, and we constantly observe the best calmative effect following its administration among our most noisy and excitable patients. I should think it would prove an excellent remedy in the acute and violent forms of chorea, although I have never given it in that disease.

This is not the time to go very deeply into the subject, and yet there is a great deal to be said both for and against the general use of this potent drug. We use it daily in the treatment of our patients, and have never witnessed, in a single instance, any bad result. On the contrary, we have succeeded in calming the wildest excitement by the persistent but prudent use of hyoscyamin when other remedies

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had failed, and we believe that many have been cured by its use that would have otherwise passed into hopeless dementia.

SEVENTH SUBJECT.

WHAT IS THE BEST TREATMENT FOR LOCAL CHRONIC ECZEMA?

For adults, ammoniated mercurial ointment has cured more cases than anything I have ever tried. I use the following formula, viz: Hydrarg, ammoniat: pulv. gum camphor, aa 3 ounces; ungt. glycerine 3 ounces. I use this twice daily.

For children—the benzoated oxide of zinc ointment rubbed in twice daily.

If the disease does not yield, give Fowler's solution internally, and continue the above treatment locally.

By Dr. B. H. Riggs, of Selma: I hold in my hand a prescription which has given me more satisfaction in the treatment of chronic eczema than any I have ever used, and I can recommend it to the consideration of the gentlemen present. It is not original with me; it is a prescription which Dr. John Herbert Claiborne, of Petersburg, Va., published in the American Medical Bi-Weekly, for April, 1881. Dr. Claiborne states that it was a mistake in the prescription, as he did not intend to use oil of cajeput, but did write it; the druggist put it up as written, and the patient rapidly improved. The prescriptions are as follows: Ol. cajeput, 4 drachms; sapon. virid., 4 drachms; alcohol, 1 ounce, m. et sig. Apply once daily.

Ol. cajeput, 2 drachms; zinci oxid. ungt., 2 ounces; m. ft. ungt. Keep constantly applied to sore.

There is no doubt about the value of this prescription. I have known it to relieve some obstinate chronic cases.

One trouble in treating eczema is the too frequent washing of the sores; they should be washed very little; none at all, if possible to do without it.

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In addition, some constitutional treatment may be necessary, especially a diuretic, and commonly some corrigent for the bad digestion. I have used in children with benefit a prescription of J. Milner Fothergill, of Fowler's Solution, Ammonio-citrate of iron; citrate of potassa. and sweet wine of iron mixed in proper doses for the age of patient.

Dr. W. H. Sanders, of Mobile, presented a memorial, together with a circular, issued by the Alabama Medical College, both of which were referred to the Board of Censors, and will be included in their report.

The hour of 10 o'clock having arrived, the Association adjourned.

THE BANQUET.

The Association, with invited guests, assembled in the spacious dining room of the St. James Hotel to partake of a banquet given by the Dallas County Medical Society and citizens of Selma.

The tables were loaded with every delicacy, and adorned with every device appropriate to the occasion. Fair woman, who, although forbidden in person to appear, left her impress, not only upon the feast and its embellishments, but upon the hearts of her doctors who seemed bent on banqueting "though the body pine."

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THE PROCEEDINGS OF THE FOURTH DAY.

FRIDAY, APRIL 11.

The Association was called to order by President Jordan at 10 o'clock, A. M.

Under the head of miscellaneous business, next in order, Dr. T. J. Turpin, of Forkland, Greene county, offered the following

PREAMBLE AND RESOLUTIONS.

WHEREAS, The Supreme Court of Alabama, in 1877, decided that a scientific expert must attend a subpœna, and that his testimony can be enforced without allowing special compensation for his evidence as an expert; and

WHEREAS, This decision bears hardly upon the members of our profession in this State, and is an injustice for which a legal remedy should be found; therefore be it

Resolved, That the Greene County Medical Society recommends to the Medical Association of the State of Alabama that they use all available and proper means to procure the enactment by the General Assembly of Alabama of a law similar to the law contained in the Iowa Code of 1873, which provides that "witnesses called to testify only to an opinion founded on special study or experience in any branch of science, or to make scientific or professional examinations, and to state the results thereof, shall receive additional compensation, to be fixed by the court, with reference to the value of the time employed and the degree of learning or skill required."

Resolved further, That our Secretary be instructed to transmit, at an early date, copies of the foregoing preamble and resolutions to the President, Secretary and Senior Censor of the State Medical Association; and that it shall be the duty of our Delegates to the next Convention of the State Medical Association to bring the matter before the Association and urge upon them the great importance of prompt action and persistent effort upon their part in order to procure the enactment of the law desired by us.

The above resolutions were adopted November 13th, 1883, by the Greene County Medical Society by the unanimous vote of all members present at the meeting.

Dr. E. H. Sholl moved that the report as made by Dr. Turpin be received and referred to a committee of three, with instructions to bring the matter before the next Gen-

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eral Assembly in such shape as they may elect. Adopted. Committee: Dr. T. J. Turpin, of Forkland, Henry T. Inge, of Mobile, and James M. Godfrey, of Sumterville.

[The Senior Censor subsequently said, that the resolutions belong properly to the Board of Censors, he therefore moved that the committee of three which had been appointed be discharged from the further consideration of the matter.

The motion was adopted.]

Dr. Peter Bryce, of Tuskaloosa, read the following:

Preliminary to the report of the Board of Censors about to be read to this body, I desire to say, in behalf of the Board, that the term of office of our efficient Health Officer expires with the present session of the Association; that an election was held to fill the office for another term of five years, and that Dr. Jerome Cochran was unanimously chosen his own successor at a salary of $1800 per annum. The following resolution embodies the action of the Board of Censors more specifically:

Resolved, That on the re-election of Dr. Jerome Cochran to the important office of Health Officer of the State, the Board of Censors take the occasion to express their high appreciation of his valuable services in the past, to return him their thanks for the very thorough and satisfactory manner in which he has performed the delicate, arduous and difficult duties of the office, and to commend him anew to the Profession and people of the State of Alabama as an officer entitled in revery respect to their continued confidence and esteem.

On motion, the report was unanimously adopted.

Dr. Jerome Cochran, Senior Censor of the Association, proceeded to read his Annual Report of the Board of Censors and Committee of Public Health, which here follows:

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THE ELEVENTH ANNUAL REPORT OF THE BOARD OF CENSORS, INCLUDING THE REPORT OF THE STATE BOARD OF MEDICAL EXAMINERS, AND OF THE COMMITTEE OF PUBLIC HEALTH.

SUMMARY OF CONTENTS.

PART I. THE REPORT OF THE BOARD OF CENSORS.—*The Work of the State Association—The College of Counsellors—The Vice-Presidents—Counsellors should be Members of their County Societies—An Ordinance in relation to Counsellors—An Ordinance in relation to the election of President—Problems in Medical Ethics—The Ethics of Medical Colleges—County Convicts and Medical Contracts—Charges against the Louisville Medical College—Suggested Legislation—The Compensation of Experts—To Secure Salaries for County Health Officers—Investigation of Derelict Societies—The Reports of the Secretary and Treasurer—The Roll of the Correspondents—Application for Charter—The Work of the County Medical Societies.*

PART II. THE REPORT OF THE STATE BOARD OF MEDICAL EXAMINERS. *The Work of the State Board of Medical Examiners—The Trial of Appeals—Defective Examinations—The Evils of Unfinished Examinations—Preliminary Examinations—The Compensation of Examining Boards—The Registers of Licensed Practitioners—Investigation of the Examining Boards—The Work of the County Boards of Medical Examiners.*

PART III. THE REPORT OF THE COMMITTEE OF PUBLIC HEALTH.—*The Work of the State Board of Health—Yellow Fever—Small-Pox—A Special Recommendation—An Ordinance in Relation to the Public Health and the Collection of Vital Statistics—Pending Bills—Sanitary Conventions—The Registration of Infectious Diseases—Office and Library—The Book of the Rules—The State Health Officer.*

PART IV. THE REPORTS OF THE STATE HEALTH OFFICER.—*The Outbreak of Yellow Fever at Brewton in 1883—Introduction—A Problem in Diagnosis—Testimony of the Physicians of Brewton—Black Vomit Cases in the Piney Woods—Differential Diagnosis between Hemorrahagic Malarial Fever and Yellow Fever—List of the Sick—Exposures and Escapes—Clinical Reports—Notes on Treatment—Contributions and Expenditures*

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Pensacola and the Yellow Fever of 1883—The Tribulations of a Health Officer—Small-Pox in Alabama in 1883—Inspection of Pratt Mines and Convict Prisons.

PART V. SUPPLEMENTARY PAPERS —*The Epidemic of Yellow Fever at Millview, Florida, in 1883—The Illinois Standard for Reputable Medical Colleges.*

PART I—THE REPORT OF THE BOARD OF CENSORS.

THE WORK OF THE MEDICAL ASSOCIATION.

The machinery of the State Association is now, after ten years of experience under the new constitution, well nigh complete in all its details, and serves with admirable efficiency the purposes for which it was designed. Those tentative provisions which in the beginning looked with prophetic longings into the future for vindication of their wisdom have in the progress of events been developed into functional activity and usefulness, and contribute, some in greater and some in less degree, to the furtherance of the great enterprises we have undertaken in the interests of the profession and of the people of the State. We have a record of which we can well afford to be proud—a record of unselfish and successful work far greater than was ever before achieved in a similar time by any similar association of medical men.

But the end is not yet. What we have done is only an earnest of what we have to do. We have prepared the soil, and sowed the seeds, and had some foretaste of the fruits of our labor; but the greater part of the harvest yet remains to be gathered.

Some portions of our machinery have been run under great pressure, and have proved equal to any strain that could be put upon them; but other portions of it have not been utilized to anything like the full measure of their working capacity. Hence, we have thought it advisable to offer a few suggestions as to how some sections of our composite enginery may be worked to better advantage than

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heretofore, and so as to secure a more abundant harvest of beneficent results.

THE COLLEGE OF COUNSELLORS.

Quite a leading feature of our organization is to be found in our hundred counsellors. Much has been expected of them; and they have accomplished much. They have been a tower of strength to the Association. They have supplied its treasury with money; and their labors have contributed more than all other influences together to its discipline and its consequent prosperity.

In a Circular Address issued in 1870, three years before the adoption of our present constitution, the creation of the College of Counsellors and the character of its usefulness are foreshadowed in the following terms:

"We want permanent members to be truly permanent—to be organized not as volunteers, or irregular militia, or erratic guerrillas, changeful in character and purpose as the inconstant moon in her orbit—it is not this loose sort of organization that is needed—but we want a body of regular soldiers—veterans trained to efficiency by careful discipline and long service and the vicisitudes of frequent campaigns—a Spartan band, a Macedonian phalanx, a Roman legion, an old guard, which can be moved as one man; which can be trusted in all emergencies with blindfold confidence; and in which every man knows his neighbor, and knows that in the hour of battle and of danger his neighbor will do his whole duty bravely and well. This is what we want in our permanent membership—a body ready to do valiantly and to suffer unselfishly for the good cause, for the advancement of medicine and the medical profession; and this is what we must have."—*See Transactions of 1871, page 16.*

And this is what to a very considerable extent we have got. But all our counsellors are not equally efficient. All of them, indeed, comply with their merely formal and pecuniary obligations to the Association, and this is much; and many of them acquit themselves nobly of all the duties and

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obligations they have assumed and well deserve the plaudit, Well done, good and faithful servants; but there are others, and they are not a few either, who have not so abounded in good works as to have merited any very enthusiastic approbation.

Let all counsellors remember always that these duties, amongst others, are always incumbent upon them:

(1) That they are expected on all occasions to fight the battles of the State Association, and to labor unselfishly to increase its power and influence.

(2) That they must consider themselves the special agents in their several counties of the State Association for the maintenance of the organization, the discipline and the efficiency of the county medical societies.

(3) That they must hold themselves responsible for the successful administration in their several counties of the health laws of the State, and of the law to regulate the practice of medicine.

Counsellors of the Medical Association of the State of Alabama, you have not been elected to positions of easy work and abundant profit—have not been called to the front to have caresses and decorations showered upon you because you are good clever fellows whom your brother doctors delight to honor. On the contrary, you have been made counsellors so that you might have the privilege of giving much and receiving very little—so that you might be in a position to contribute your money, and your time, and your labor, and your best judgment for the advancement of the good cause without other reward than the satisfaction, altogether divine, that flows from the consciousness of doing good. But, indeed, what nobler reward than this could any man have?

THE VICE-PRESIDENTS.

In the convention which framed the constitution of the United States a discussion occurred as to what formal titles of ceremony and honor should be used in addressing the

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great officers of the nation. This discussion Franklin abruptly closed by offering a resolution that the vice-president should be designated as "his most superfluous highness." It has happened, however, on several occasions in the course of our political history that vice-presidents have proved to be very useful institutions. And so it is in the Medical Association of the State. We cannot dispense with our vice-presidents. But it has occurred to us that we may very greatly enlarge their functions and increase their usefulness. In doing this we increase at the same time the honor and dignity of the vice-presidential office.

The Association may be compared to an army. Then the president is the general in chief, and the vice-presidents are his lieutenants; and there is work enough for them all. In the unorganized counties medical societies are to be formed. In the organized counties the societies need to be drilled and trained to efficiency in the discharge of their duties; the prompt and regular attendance of members at the meetings of the societies needs to be encouraged; there are still many reputable physicians outside of their county societies who ought to be induced to become members of them and participants in their work; and there is much else to be done which need not now be specially mentioned.

It is the duty of the president to look after all these things. This supervision is as much a part of the duties of his office as the formal duties prescribed in section eight of the constitution; and in this field he should utilize to the utmost his lieutenants, the vice-presidents. Let the State be divided into two departments, and let one of the vice-presidents be assigned to one of them, and the other to the other; and let them make to the Association at the annual sessions immediately after the reading of the president's message, formal written reports of the results of their stewardship.

We do not put this suggestion into the shape of an ordinance, but we recommend that the plan be given a fair provisional trial for a few years. If it succeeds we can then

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embody it in a formal ordinance as a part of our regular scheme of work.

COUNSELLORS SHOULD BE MEMBERS OF THEIR COUNTY SOCIETIES

To any one who takes the trouble to study the questions connected with the counsellorship, it very soon becomes manifest, that while the position is one of high honor, and is so intended to be, it is also one which is invested with corresponding duties and obligations. They are not only expected to contribute more generously to the funds of the Association, and to be more regular in attending its meetings than other members, but they are also expected to be foremost in upholding the honor and dignity of the profession in their respective counties, and to carry on their strong shoulders the heaviest burdens imposed by the rules of the Association and the laws of the State on their respective county societies.

It has happenened on several occasions heretofore that counsellors of the Association have been expelled from their county societies for unprofessional conduct; or have been dropped from the rolls of their county societies for non-payment of dues; or for reasons satisfactory to themselves have resigned from the membership of their county societies. In all such cases up to this time counsellors so severing their connection with their county societies, have also, in some way severed their connection with the State Association, by submitting to expulsion for non-attendance, or for non-payment of dues. In the case where a counsellor has been expelled from the membership of his county society for unprofessional conduct, and where he has not been vindicated by an appeal to this Association, our course of procedure is plain. We must sustain the county society in the administration of professional discipline, by the prompt expulsion of the offending counsellor. But if a counsellor resigns from the membership of his county society, or allows himself to be dropped for non-payment of dues, the

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case might admit of discussion. But it is easy to see that a counsellor who is not at the same time a member of his county society, provided there is a society in his county, is not in a position that will help him to do his full duty to the Association, because he is evidently shirking that part of it which is practically the most important, that part of it, namely, which lies nearest to his hand in the immediate neighborhood of his home. The defection of two or three counsellors would be of small consequence to the State Association so far as its general work is concerned; but the defection of two or three members of a county society might embarrass that very greatly in the performance of its local work. It seems to us, therefore, that the proposition, that every counsellor should be a member, and an acting, leading member, of his county society may be taken as well established; and that it would be well for this Association to pass a rule defining our policy in regard to the cases mentioned. To this end we recommend the adoption of the draft of an ordinance which here follows:

AN ORDINANCE IN RELATION TO COUNSELLORS.

Be it ordained by the Medical Association of the State of Alabama, That whenever any Counsellor of this Association ceases to be a member of his County Society, by expulsion or by resignation, or by being dropped from the roll for non-payment of dues, he shall, after such investigation by the Board of Censors as may be necessary to establish the fact, have his name struck from the Roll of the College of Counsellors, and be expelled from the fellowship of the Association.

There are two other cases in which a counsellor of the Association might not at the same time be a member of any County Society.

(1) Having been a member of a county society at the time of his elevation to the counsellorship he might subsequently move into a county in which there was no county society. In this case we think his counsellorship should be allowed to continue. He could do useful work by using his influence in his new home for the advancement of the enterprises in which the Association is engaged, and in en-

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deavoring to organize the profession of the unorganized county into a county society.

(2) Once or twice we have elected *de novo* as counsellor a physician living in an unorganized county. Without finding fault with anything of this sort heretofore done, we think it will be better in the future not to imitate our own example in this matter. The century of the college of counsellors is now full. The application for places in the college made by the friends of working members is far in excess of the vacancies that occur. The case, therefore, would have to be very strong where the claims of an outsider could demand favorable consideration.

AN ORDINANCE IN RELATION TO THE ELECTION OF PRESIDENT.

Fortunately, in the Medical Association of Alabama there is no such thing as electioneering for office—it being definitely understood amongst us, that the office must seek the man. Indeed, for any member to press his own claims for election to any office would be the most certain means to compass his defeat. And this is as it should be. Caucusings, and intrigues, and combinations amongst aspirants are all out of place in an organization like ours—are indeed very gravely disreputable in an organization like ours. From this malign influence, then, we are as free as in the nature of things we can expect to be. But there is an other influence against which it is, perhaps, wise that we should endeavor to guard ourselves, especially in the matter of the election of the president—a position now of very great honor—and that is, the influence of the locality in which any of our sessions may be held. It is a very subtle influence, and one which it is very hard to avoid, an influence which finds the fulcrum for the lever of its power in generous and gracious sentiments, in the amiable weaknesses of human nature. When we are the recipients of elegant hospitalities in the midst of a community where every body is endeavoring to contribute towards making our temporary sojourn pleasant and profitable to us, our votes need no other solicitation, we are

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anxious to compliment the place and to emphasize the expression of our gratitude by selecting some one of its citizens to honor with the presidency of the Association. This is an amiable weakness, indeed, but it is all the same a weakness, and when it is added to the local vote, which for very manifest reasons, is always present in disproportionate strength, it sometimes leads to results that are not greatly to be wished—that had at least better be avoided. In the American Medical Association these two things, the power of the local feeling, and the power of the local vote, increased to such an extent as to obtain almost complete control of that immense association, and to lead finally to the enactment of a rule to the effect, that when the association was in session at any place the president should not be selected from the same place. Heretofore in the history of our own Association no trouble has ever been occasioned in this way. It has even occurred that on this ground alone, the proffer of office has been pushed aside with the remark, "No, this is our home, we must not be selfish, everything is for our guests"—a refinement of courtesy which perhaps went too far. It has happened only three times since the war that the president elected was a resident of the place in which the election was held, namely, once in Selma, once in Montgomery, and once in Birmingham; and in these three instances we are sure that the influence of the locality amounted to very little, the election falling on members whom the Association would have delighted to honor anywhere.

Not then, as the result of anything that has occurred, but simply to avoid embarrassments which the experience of other bodies has shown us are very likely to grow out of this influence of locality in the election of the president, we recommend the adoption of the following proposed ordinance, namely:

Be it ordained by the Medical Association of the State of Alabama, That hereafter, and as long as this Association continues its present policy of holding its successive annual sessions at different places, the president elected at any annual session shall not be a resident of the county in which said session and said election are held.

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PROBLEMS IN MEDICAL ETHICS.

Ethical problems grow out of the application of ethical rules to cases occurring in the real experience of life. In medicine as in other businesses and professions, cases may arise, about which in their ethical relations opinions may differ. Such cases, when decided by any tribunal of competent jurisdiction, become precedents, just like the decisions of the courts of the country, and may be made use of for furthering the decision of other cases involving, in part or in whole, similar issues.

Two problems of this character have come before us for consideration during the present session, and we proceed here to their discussion.

THE ETHICS OF MEDICAL COLLEGES.

A full and satisfactory statement of the first of these problems is presented in the three documents which here follow:

To the Medical Association of the State of Alabama:

As Secretary of the Medical College of Alabama I am instructed to bring to your attention a circular, issued by the college (a copy of which is herewith appended), and to ask that you will pronounce an opinion upon the ethical character of said circular.

The occasion of referring this matter to you grows out of the fact that the ethics of this circular have been severely attacked, by certain medical journals, and, as the faculty believe, unjustly. Knowing that the past history and present status of this body entitle its judgment upon ethical questions to high consideration, the faculty confidently submit the circular in question to it, feeling assured that its verdict will be in accord with the true construction of that code of ethics, to which we all owe allegiance.

W. H. SANDERS, M. D.,
Secretary of the Faculty of the Medical College of Ala.

TO THE MEDICAL PROFESSION.

The Faculty of the Medical College of Alabama having acquired entire control of the City Hospital of Mobile, and being desirous of extending its accommodations to as large a number of patients as its capacity will admit, have adopted the following system of management:

In addition to the sick of the city and county, who are regularly provided

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for in the hospital, all persons, irrespective of the locality from which they may come, requiring surgical treatment, and those suffering from diseases of any of the special organs, as the eye, ear, throat, uterus, bladder, etc., will be admitted as patients, and placed under the professional care of that member of the faculty who devotes himself especially to the study and treatment of the class of affections to which each case may belong.

When necessary or desired, consultations of several members of the faculty will be held in reference to any particular case.

The hospital building is substantial and commodious—having a capacity of 250 patients—is eligibly located on the outskirts of the city and surrounded by open and airy grounds.

The apartments are comfortable and clean, and every needed attention in the way of nursing is rendered.

Separate apartments are provided for colored patients.

A physician and two undergraduates, annually appointed from the medical class of the College, reside in the hospital, and devote their entire time and attention, under the direction of the faculty, to the care of the sick.

The rates for board vary from $1 to $7 per week, according to circumstances and the nature of the case.

Persons who are very destitute, and suffering from any of the classes of diseases designated, will be received free of all cost—the college defraying the expense of their board.

Correspondence is requested in reference to such patients before coming.

The privileges herein offered, including gratuitous professional service, are understood to apply to such persons only as are unable otherwise to provide themselves with proper medical attention.

It is believed that in the country and in cities and towns not supplied with hospitals there are many cases of disease demanding surgical or special attention, the treatment of which the resident physicians feel unwilling to undertake, either on account of the remoteness of the patient or the lack of those facilities for supervising and controlling the treatment to be had in hospitals only.

To reach and relieve, if possible, such cases, and, at the same time to secure clinical material that will be valuable in illustrating the course of lectures in the college, are the objects of this circular.

Any assistance you may render in furthering these objects, by referring cases of the classes mentioned to the City Hospital of this city for treatment, will be highly appreciated and duly acknowledged.

For further information, address

W. H. SANDERS, M. D.,

Secretary of the Faculty of the Medical College of Alabama.

Mobile, Ala., Oct. 24, 1883.

ADVERTISING DOCTORS.

There are some kinds of indirect, but quite voluntary advertising difficult to reach by any tribunal but the common sentiment of the medical profession.

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A very opportune illustration of this fact is afforded by the recent action of the Mobile Medical College. Coming into possession of a hospital, the faculty have issued a circular setting forth the skill of their members and offering gratuitous service to the sick poor of the State. In this case both the letter and spirit of the National Code are violated—for the claims of special skill made in the public prints, and the offer of gratuitous service, are alike condemned. These professional advertisers evidently hope for immunity from the usual disciplinary results of such acts, because "the college" is the offender. As it is a fiction of the English law, "the King can do no wrong," so these gentlemen hope that "the college" may occupy before the profession a similar unassailable position. If a Mobile physician may not send broadcast through the State a circular offering his services as a specialist possessed of the highest skill, and agree to treat the sick poor gratuitously (they must write and hear something to their advantage, before coming, however), why should six or eight medical men, composing a college faculty, be permitted thus to violate the Code and offend the sense of professional fitness?—*Med. News, Dec. 8th*, 1883, *page* 631.

These documents might furnish the text for a very elaborate and instructive discussion; and the very fact that they have been submitted to this body by the faculty of the medical college of the State is in itself a notable event. Medical colleges are to a very large extent run on the ordinary principles of commercial economy, and for the benefit of their faculties of teachers. They are therefore very naturally impatient of extrinsic interference, feeling that they can paddle their own canoes more to their advantage if let alone. Indeed, so far as we know, while medical colleges have sometimes been arraigned before medical associations by persons who find fault with something they have done, this is the first instance in which the faculty of a medical college have come deliberately and of their own free will and accord to submit an important question to the arbitrament of an association of medical men. Nothing could indicate with more emphasis the commanding influence of our organization.

The problem to be investigated is the ethical character of the college circular. And of this circular the salient points are as follows:

(1) That the object of it is to bring from the surround-

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ing country to the Mobile hospital patients requiring surgical or special treatment.

(2) That to such patients when they are not able to pay their way professional services and even board are offered gratis.

(3) That the avowed object of all this is to obtain material for the advantage of the college clinics—material for the illustration of certain courses of lectures, and for the better teaching of the students in attendance.

In the discussion of this problem it is to be borne in mind, that there is no established Code of Ethics for the government of medical colleges. The Code of the American Medical Association applies to practitioners of medicine as such; and not, except in a vague and general way, to the teaching faculties of the colleges. The medical man as a teacher occupies a position very different from that occupied by the medical man as a practitioner. Medical colleges have long been in the habit of publishing annual announcements and catalogues in which the names and distinctions of the professors are prominently displayed; and in which their facilities for hospital, clinical, and other instruction are ostentatiously paraded for the attraction of students; and while these things have sometimes been complained of as in bad taste, they have never been formally condemned by any competent authority. Indeed, it might be no easy matter to point out any authority that could claim jurisdiction over the medical colleges of the country. Years ago when medical colleges were allowed to send delegates to the American Medical Association that body might with some show of reason have claimed such jurisdiction; but now any such claim would be regarded as of questionable validity.

Up to a few years ago college announcements were often given to the public through the columns of the secular press, and this bad practice was not interfered with until the colleges themselves, acting through the Medical College Association, saw fit to prohibit it. It is clear, therefore,

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that medical colleges have been allowed a latitude in the way of advertising that would not be tolerated in practitioners of medicine.

A similar latitude obtains in the case of hospitals and sanitariums, both public and private, as also in regard to watering places and other health resorts.

In the same number of the *News* which contains the assault on the "Mobile Medical College"—there is no such institution, by the by, the writer evidently meaning the Medical College of Alabama—there are to be found two advertisements of the kind here referred to, namely:

(1) The Riverside Sanitarium, in charge of John S. Marshall, M. D., and Charles F. House, M. D., invites attention to its excellent location; to its ample appliances and trained nurses; and to the success that has attended the treatment in said institution of nervous and mental diseases, including the opium and alcohol habits.

(2) Dr. Alfred T. Livingstone advertises Private Homes for Patients, one in Philadelphia and one in the country eighteen miles away, with skilled nurses, liberal dietary, etc., and refers by permission to Dr. S. Weir Mitchell, Prof. D. Hayes Agnew, Prof. J. M. DaCosta, Prof. Wm. Goodell, and Prof. Wm. H. Pancoast.

It is true that these institutions advertise for paying patients. But if there is any impropriety in advertising for patients at all, as there undoubtedly is in the case of private practitioners, and as there probably is in the case of private hospitals and sanitariums, the impropriety is tenfold greater when the purpose of the advertisement is to secure patients able to pay than it is when the purpose is to secure patients who are not able to pay. All physicians give professional service to the poor gratis; this is one of the well understood and immemorial privileges of the profession. But for any individual practitioner to make any public offer to do this, is an ostentatious affectation of philanthropy, in a way that puts him to no cost, and which is simply disgusting and disreputable. Hence it is properly prohibited by the ethics.

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But when a hospital proposes to take the sick poor, and not only to give them medical treatment gratis, but to give them board and lodging besides, we have a very different case to deal with, and, whatever opinions we may form as to its propriety, a case which is not covered by any rule of the established ethics. It is not, therefore, *prima facie* unethical.

Now this is the case of the college circular under discussion. The secretary of the faculty addresses himself to the doctors practicing medicine in the country contiguous to Mobile, and says very frankly: We have a college which is in need of clinical material; we have a hospital where we can have the sick properly cared for; and if you medical gentlemen have such cases as we need and choose to send them to us so that we can make use of them in our clinics, for the benefit of our students, we will, as a *quid pro quo*, furnish the medical attendance, together with comfortable quarters in the hospital.

We have to report, therefore, that after as thorough an examination as we are able to make, we fail to find that this college circular is in conflict with the recognized code of medical ethics.

Before concluding our report we feel called upon to consider the criticism of the *Medical News*. This is a periodical of exceptionably high character; and it prides itself especially on its ethical orthodoxy. Having a large circulation and wielding a potent influence amongst medical men, this periodical should be specially careful to base its adverse judgments on correct statements of facts. In this instance it has not done so. In this case, indeed, the so-called facts which are adduced to point the moral and adorn the tale are not facts at all, but pure fictions evolved out of the inner consciousness of the editorial writer. A few examples will suffice to show this:

(1) "The faculty have issued a circular setting forth the skill of their members." *Per contra*, the members of the

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faculty are not mentioned by name, and not one single word is said about their skill.

(2) "Claims of special skill made in the public prints." *Per contra*, they make no claims of special skill, or of any skill at all, or of anything else, in the public prints. The circular never appeared in the public prints at all.

(3) "The offer of gratuitous service" * * "condemned by the National Code." *Per contra*, the offer of gratuitous service by hospitals has not been condemned by the National Code.

(4) "If a Mobile physician may not send broadcast through the State a circular offering his services as a specialist possessed of the highest skill, * * * why should six or eight medical men composing a college faculty be permitted thus to violate the Code?" etc. *Per contra*, this faculty did not scatter broadcast through the State any such circular as that here described, and indeed did not scatter broadcast any circular at all of any sort. They sent to members of the medical profession practicing in the country contiguous to Mobile, and not to the general public at all, a very different circular which can be found in another part of this report. And in this circular none of them were mentioned as specialists possessed of the highest skill; none of them were mentioned by name at all except the secretary, and it does not appear from the circular whether he is a member of the faculty or not, nor whether he is a specialist or not.

(5) "They" (the sick poor) "must write and hear something to their advantage before coming, however!" *Per contra*, the sneer and the inuendo contained in these words are absolutely without warrant or shadow of warrant from anything to be found in the circular. Like all the rest of the criticism, it is unadulterated fiction—if it ought not rather to be called by a harder name. The object of the circular was to get cases that could be used in the college clinics. Cases that could not be used in this way were not wanted. The faculty did not want to be burdened with the

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expense of keeping a lot of sick people who could not be utilized in the one way mentioned; and so a preliminary correspondence was requested with the doctor interested in the case, and not with the patient, in order to determine this special point.

COUNTY CONVICTS AND MEDICAL CONTRACTS.

A paper, without signatures, but which was presented by Dr. Sholl of Jefferson county, and which is understood to involve a question of some concern to some of the physicians of that county, has been referred to us for consideration. It reads as follows:

To the Medical Association of the State of Alabama, April 10, 1884:

In view of the large number of convicts employed in Jefferson county, and the law of contracts as it now stands cutting off the regular profession from all such practice, thereby placing them entirely in the hands of the irregulars, we suggest that all convicts be placed under the same rules as those in the penitentiary, exempting them from the law regulating contract practice.

The facts on which the foregoing suggestion is based are, as we understand them, as follows:

(1) A considerable number of county convicts have been leased from various counties by several contractors, and are worked in the mines of Jefferson county.

(2) By express provision of law and of the several leases the contractors are required to furnish medical treatment for the convicts included in their respective contracts.

(3) In order to get this treatment at the lowest possible cost they, so far as they can, employ physicians by contract at so much a month or year.

(4) But all such contracts as these are condemned by the Code of Ethics of the American Medical Association, by the Ethical Rules of the Medical Association of the State of Alabama, and by express ordinances of the Jefferson County Medical Society; so that a physician who takes any such contract is placed under the ban of the profession.

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(5) Whence it follows that reputable physicians do very little of this practice, which consequently falls into the hands of irregulars and reprobates who are not bound by the ethics, and who are often incompetent.

(6) It is further urged, that these unfortunate convicts, being wholly at the mercy of the contractors, have no power to select medical attendants for themselves, so that their interest would be promoted by any arrangement that would allow reputable physicians to do this practice by contract.

(7) And in view of all these facts the proposition is submitted which is now under discussion, namely: Whether it is expedient to relax the rules against contract practice in so far as they relate to county convicts.

This is an important question, and we have given it that careful attention which its importance demands.

There can be no doubt, we think, that the intent and purpose of the law is that convicts shall receive medical treatment at the hands of physicians of respectable character and skill; and it seems clear to us that this is also the legal and reasonable construction of the terms themselves of the contracts between the lessees and the Boards of County Commissioners. This being conceded, how are we to account for the fact that the practice amongst county convicts is virtually monopolized by physicians who are not in good standing? by physicians under the ban of the profession? The answer to this is plain enough. These contract physicians cost less than physicians of better character and ability; and they are more subservient to the wishes of their employers. For these two reasons they are preferred; and for these same reasons they would continue to be preferred in spite of any modification of the rules against contract practice. We fail therefore to see how any such modification of the rules can result in advantage to anybody concerned; unless peradventure it may be the contractors themselves. With an increased number of doctors bidding for contracts there would be sharper competition and lower rates, and so contractors might be able to hire doctors bet-

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ter suited to their purposes for less money than they now have to pay. It would not benefit the convicts, because then they would have as little power to get physicians of their choice as they have now. Would it benefit the medical profession? Nay! Say rather it would sound the death-knell of professional respectability and honor. In this busy bustling nineteenth century, when the spirit of trade, with its specious maxims that competition is the life of trade, and that demand must regulate supply, has fallen like a blight upon almost all of the industries of the world, the greatest danger that confronts the medical profession is the danger that medicine, too, may be swept along by the general current into the abyss—that medicine, too, may be degraded into a trade.

There is nothing at all in the suggestion that county convicts and State convicts should be put on the same footing as regards medical treatment; because they are on the same footing already. County convicts at home in the county jails may be treated by the county physician, who may be employed at a fixed rate per annum. State convicts in the penitentiary may be treated by the penitentiary physician who is a salaried officer. But when State convicts are leased out, just as when county convicts are leased out, the lessee or contractor, in the one case as in the other, becomes responsible for the medical treatment; and there is no more reason why individuals or private companies working convicts should be allowed to employ a physician by contract, than there is that an individual or private company working freemen should be allowed to employ a physician by contract. It is true that the present penitentiary physician does the practice of the State convicts leased by Comer and McCurdy and worked at Pratt Mines, but it is certainly no part of his official duty to do so. Why he does it he can himself best explain.

The proper solution of the problem here under discussion is extremely simple. Let the Penitentiary Inspectors, in accordance with the undoubted intention of the law,

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establish the rule, that all leased convicts shall be treated by physicians in good standing in their respective counties.

For the rest we are earnestly of the opinion that any modification of the existing rules against contract practice would be unwise and inexpedient, and would lead to wide-spreading demoralization in the medical profession.

CHARGES AGAINST THE LOUISVILLE MEDICAL COLLEGE.

In the matter of the charges made against the Louisville Medical College we have to report as follows.

These charges are three in number, as here subjoined :

(1) That the Louisville Medical College has in its published catalogues extravagantly misrepresented and exaggerated its facilities for teaching, in the way of Lecture rooms, museums, etc.

(2) That the Louisville Medical College has sought to attract students by an extensive system of underbidding, and the unlimited distribution of beneficiary scholarships, these inducements having been offered through the medium of private letters written to students of medicine by persons connected with the college.

(3) That the Louisville Medical College has, and this also through the medium of private letters addressed to medical students, unjustly and untruthfully misrepresented and depreciated other medical colleges, and especially the medical colleges of Mobile and New Orleans.

In support of these charges we have had before us the testimony of members of this Association who visited the Louisville Medical College in 1883; The Supplement to the American Practitioner for February, 1884, in which Professor D. W. Yandell marshals a large amount of evidence; and several autograph letters bearing dates in 1882 and 1883, and addressed to Alabama students by Sam. Cochran, M. D., who in 1882 was Demonstrator of Anatomy, and in 1883 Professor of Physiology in said Louisville Medical College.

The testimony in support of the charges is too extensive to be repeated in this report; but to us it seems to be entirely conclusive and unanswerable. It therefore becomes our disagreeable duty to recommend to the Association the adoption of the subjoined ordinance :

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Be it ordained by the Medical Association of the State of Alabama, That from and after this date, namely, April, 1884, the Louisville Medical College of Louisville, Kentucky, shall not be regarded as a "reputable medical college" in the sense in which those words are used in the Ordinance in relation to the Boards of Medical Examiners issued by this Association in 1877 for the government of the authorized Boards of Medical Examiners in this State; it being understood that this ordinance does not apply to the diplomas of said Louisville Medical College issued previously to the date hereinabove mentioned.

SUPPLEMENTARY REPORT.

The foregoing ordinance was duly adopted by the Association, but of course no publication of it was made in advance of its appearance in the Transactions.

An official notice of what had been done was, however, promptly served on the Dean of the college; and soon after Professors Galt and Kelly, who had been in Texas, stopped in Montgomery on their way home and sought an interview with the Senior Censor. They represented that the action of the Association could not be otherwise than detrimental to their college, and emphasized the fact that they had been judged without having had an opportunity to defend themselves. After much discussion the Senior Censor agreed to re-open the question so far as to place before the Board of Censors such statement as the faculty of the college might see fit to make in their vindication and behalf, explaining at the same time that the most that the Board of Censors could do even in case they should be satisfied that an injustice had been done the college, would be to suspend the publication of the action of the Association until its next annual session.

This interview occurred near the end of April, and soon after, under date of May 1st, the statement of the college was received in the terms following, to-wit:

Dr. Jerome Cochran, Senior Censor, M. A. S. A.

DEAR SIR—It has been a cause of great regret to the faculty of the Louisville Medical College that a body so eminently respectable as the Medical Association of Alabama should have placed our school among the disreputable medical colleges without allowing it a defense. As Professors Kelly and Galt have assured you that the letters, which are said to be the cause

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of the action of your honorable body, were not authorized or issued by the faculty; that it is not the policy of our school to issue such letters, I desire to add as Dean of the faculty my endorsement of Drs. Kelly and Galt, and to assure you that no such letters will be written in the future.

Our faculty desire to place our school in full accord with all advances in medical teaching, and in school morals; and are deeply chagrined at being placed under the ban of your Association.

I hope that you will accept this statement as sincere, and give us your valuable aid in placing our school right before your honorable body, for which we have the most profound respect.

Respectfully, J. A. IRELAND, Dean.

This statement was duly submitted to the Board of Censors, and the Board, after due consideration of it, reached the conclusion, that said statement does not materially change the status of the case, except that it promises better things for the future, and that therefore they see no good and sufficient reason for suspending the publication of the action of the Association in the premises.

In connection with this report it is thought expedient to publish two remarkable documents, as follows:

(1) The first is one of the letters which was before the Board of Censors as part of the evidence against the college, and is given simply as a sample of the arguments used by attaches of this college to attract students. It is signed by Sam. Cochran, who was at the time Demonstrator of Anatomy in the college; bears date the 21st of August, 1882; and is addressed to Dr. Wm. Kimbrough of Choctaw Corner, Alabama:

DEAR SIR—A friend sent me your name, said you were going to attend college next fall, and asked me to write to you that you might learn some of our very many advantages before you fully decide where you will attend.

Our city is pleasantly located on the bank of the Ohio at the falls, populated by a cultivated and social people, surrounded by a rich and beautiful country, and the healthiest place in America. The climate is equal to the best; it gets neither too hot nor too cold.

We have five schools, three in winter and two in summer. This necessarily creates great rivalry, and the result is, as it is a fact that any business is best where the competition is greatest, there is no place where you can obtain a better medical education. Where there is but one school the students, not knowing any better, all matriculate in this one, and from lack of competition there is no necessity for the faculty to put forth any very great

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effort, and the consequence is a very poor course is given. As I have attended at Mobile and New Orleans, where there is but one school, I know this to be true. Here the competition is very great; each school is dependent upon its merits for patronage ; the greatest effort possible is put forth ; and the result is there is no place in America where medicine is better taught. Our population is 160,000, which affords splendid hospital advantages and plenty of dissecting material. Your board will cost from ten to twelve dollars a month. I will take you for fifty (50) dollars, as I have a right to take a certain number of beneficiaries from your State. Although I am a Mississippian, I will assure you that you will not be among entire strangers. I know I can aid you in many ways in college, besides relieving you of the many embarrassments that young men meet with when they go from country to city. Anything I can do for you will be cheerfully done if you will only come. Can I hope to see you here next fall? I send you a catalogue. Please let me hear from you as soon as you can. Send me the names of all the students in your county. By so doing you will greatly oblige, yours truly, etc.

(2) The second is an editorial article which appeared in the *Medical Herald* for May, 1884. The *Herald* is the organ of the Louisville Medical College; and this article is from the pen of Edward Miller, M. D., professor of surgery in the college and secretary of the faculty:

STATE BOARDS OF HEALTH.

Maryland has abolished her State Board of Health, and it is probable that Kentucky will follow so laudable an example. These boards, instead of being a benefit to the people, are a public nuisance. They have never accomplished any good and never will. If power is given to them it is always grossly abused, and if, as is usually the case, they have none but an advisory power, their action is uniformly pernicious or foolish. Generally the appropriation for them is small, and is only intended to reward some physician who has failed as a practitioner but has what is called influence. Placing power in the hands of such persons may lead the State into trouble, as they can be used as tools by designing persons, or through motives of self-interest may do deeds for which others suffer the consequences. We see, for instance, that the Alabama Medical School is endeavoring to make the students of Alabama attend that school by getting the board to refuse recognition of the diploma of the Louisville school, solely upon the ground that the exodus of Alabama students is ruining their institution. If such things can be done, soon only one school will be allowed in a State, and no State will recognize any school but its own. Some such scheme was incorporated with the design of the bill for the health board in this State. One of the officers of this board was to become a professor in the smallest summer school in this city, and using his dictatorial power given him by an

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unwise legislature was to force students to attend his school by refusing to recognize the diplomas of all other colleges. A board thus constituted, that is, with a professor in it to look after his own school, is hardly complete. It can be further improved by having an editor of a medical journal one of its members, to proscribe all other journals, and a publisher to throw out all medical books not published by himself. Civilization is, however, slow in its growth, and these great improvements will probably be brought about only in process of time.

SUGGESTED LEGISLATION.

Two schemes of law prepared with the view of having them presented to the General Assembly have been submitted to us for consideration. They are here subjoined, together with such remarks as seem to us appropriate under the circumstances:

THE COMPENSATION OF EXPERTS.

One of these comes up in the shape of certain preambles and resolutions, which were approved by the Greene County Medical Society on motion of Dr. T. J. Turpin, as follows:

Whereas, The Supreme Court of Alabama, in 1877, decided that a scientific expert must attend a subpœna and his testimony can be forced without allowing special compensation for his evidence as an expert, and

Whereas, This decision bears hard upon the members of our profession in this State, and is an injustice for which a legal remedy should be found, therefore,

Resolved, That the Medical Society of Greene County recommends to the Alabama State Medical Association that they use all available and proper means to procure the enactment by the General Assembly of Alabama of a law similar to the law contained in the Iowa Code of 1873, which provides that "Witnesses called to testify only to an opinion founded on special study or experience in any branch of science, or to make scientific or professional examinations, and to state the resul.s thereof, shall receive additional compensation, to be fixed by the court, with reference to the value of the time employed, and the degree of learning or skill required."

Resolved further, That our secretary be instructed to transmit at an early date copies of the foregoing preamble and resolutions to the President, Secretary, and Senior Censor of the State Medical Association; and that it shall be the duty of our delegates to the next convention of the State Medical Association to bring the matter before that body and urge upon it the importance of prompt action and persistence upon its part in order to procure the enactment of the law desired by us.

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The scheme of legislation outlined in these resolutions would seem to be entirely fair and reasonable. But there are usually two sides to most questions, and there are two sides to this. If we look into the matter closely it will be seen that the phrase "expert testimony" is a very comprehensive one. Engineers, mechanics, merchants, bankers, and farmers, shoemakers, carpenters, blacksmiths, tailors, and in short the members of all the different professions and trades, are just as much experts in their respective professions and trades as doctors are experts in medicine; and all of them could claim with just as much show of justice and expediency as doctors can that they ought to be paid special rates for their expert testimony, due consideration being had for the relative values of different sorts of expert knowledge. Such a *reductio ad absurdum* as this would certainly defeat any such measure as this before the General Assembly of the State. It may be urged that if Iowa passed such a law Alabama might do the same. Perhaps so. But if Alabama were to imitate Iowa in passing such a measure, she would also be very sure to do as Iowa did at the next session of the legislature, namely, so modify the law as to make it of very little value to the medical profession.

There is, however, another reason why the medical association cannot lend its influence to help this measure through the General Assembly. It has been our inflexible policy heretofore never to ask anything of the legislature for the exclusive benefit of the medical profession; and it is plain that a law like the one here proposed would be of advantage to the medical profession alone. If such a law were actually on the statute book it would add very little to the aggregate revenues of the profession, and we certainly can't afford to beg the State for small pecuniary favors. In Alabama especially the State has done a great deal for the medical profession, and the medical profession can very well afford to be generous towards the State when the only expenditure is in the shape of expert knowledge that is not diminished by the using.

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There is still another consideration that must be allowed to have its weight in giving direction to the policy of the Association in regard to this matter. We have several important bills already on our calendar which it is very desirable to have enacted by the General Assembly, and it would certainly not be expedient to add to their number.

In view of all these reasons we recommend that this proposition be indefinitely postponed.

TO SECURE SALARIES FOR COUNTY HEALTH OFFICERS.

The other scheme is intended to provide a way to secure adequate salaries for the county health officers, and is in the following terms:

A Bill to be entitled an Act to require the Commissioners Courts to fix annual salaries of County Health Officers.

SECTION 1. *Be it enacted by the General Assembly of Alabama*, That it shall be the duty of the several Commissioners Courts of this State, at the April term thereof in each year, or at the next regular term of such courts thereafter, to fix the salary of the health officer of their respective counties for the next twelve months thereafter.

SEC. 2. *Be it further enacted*, That said court in fixing such salary shall be governed by the evidence adduced tending to show the value of the labor to be performed and services to be rendered by the health officer of the county.

SEC. 3. *Be it further enacted*, That any one in interest being dissatisfied with the action of said court in fixing such salary may, within thirty days thereafter, take an appeal to the circuit court of the county in which said proceeding is had, as in cases now provided for by law in cases of appeals from the probate courts to the circuit courts, and on entering into bond with good and sufficient surety payable in the county in which this appeal is taken, conditioned to pay all such costs as may be incurred by reason of such appeals. In the event the commissioners court or the county fails or is unsuccessful in such appeal, then the costs to be paid as in cases of claims against the county on the order of such court out of the treasury of such county.

SEC. 4. *Be it further enacted*, That each health officer within sixty days after he is appointed or elected, shall be required to enter into a bond in the sum of five hundred dollars, payable to the State of Alabama, and conditioned to faithfully discharge the duties which are or may be required of him by law during the time he continues therein or discharges any of the duties thereof, which bond shall be taken and approved by the probate judge of the proper county and filed in his office.

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SEC. 5. *Be it further enacted*, That before said health officer shall enter on the discharge of the duties of such office he shall take and subscribe an oath faithfully and impartially to discharge the duties of such county health officer according to law.

SEC. 6. *Be it further enacted*, That all laws and parts of laws in conflict with the provisions of this act be, and the same are hereby repealed.

In our opinion this scheme of law ought not to receive the approval of the Association, and this for the following reasons:

(1) All that is proposed to be accomplished by this scheme can be done quite as easily under the existing law. Under the existing law the boards of county commissioners are required to fix the salaries of county health officers; and if they fail to do so can be compelled, and in fixing the salaries they would be required to have regard to the value of the work done. In the existing law the county health officers are required to give bond in twice the sum of their several salaries, which is quite enough. They do not take and subscribe an oath to perform the duties of their office according to law; but surely this formality may well be omitted.

(2) While the existing law would furnish a sufficient basis for such legal proceedings and appeals as are suggested by this new scheme, the amounts involved are so small that prudent men would never be willing to pay lawyers and give bonds and run the chances of having to pay costs, which such legal proceedings demand. None have done so heretofore, and none are likely to do so hereafter. Neither would such suits and appeals ever be brought even if this new scheme should become a law.

(3) Even if men could be found who would be willing to engage in such suits and appeals it would be in contravention of good policy. Let our health authorities make themselves useful; let them get the confidence and respect of their several communities; and there will be very little trouble about getting fairly well paid. There is an inherent sense of justice amongst men, and boards of county

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commissioners have their shares of it, that may be safely trusted to award good pay for good work.

We therefore recommend that the further consideration of this proposed scheme of law be indefinitely postponed.

INVESTIGATION OF DERELICT SOCIETIES.

The following county medical societies, viz:

The Bibb County Medical Society,
The Chambers County Medical Society,
The Colbert County Medical Society,
The Crenshaw County Medical Society,
The Macon County Medical Society,
The Monroe County Medical Society,
The Pike County Medical Society,

having no representatives present at the session of the Association held last year in Birmingham, and having failed to forward their Annual Reports to the Secretary, were referred to the Board of Censors for investigation. We have attended to this duty and have to report as follows:

The Bibb County Medical Society was always small, and last year it dwindled down, by the removal of some members from the county and the death of one or two others, to a membership of three. It had been sustained largely by the efforts of Dr. James W. Crawford, who died while the Association was in session last year. The Annual Report was subsequently sent up; and the little society proposes to keep itself in line as well as it can. It might be made a question whether it is prudent to keep so small a society on the roll; and we should certainly hesitate to recommend a charter for any new society of such diminutive dimensions; but the Society of Bibb county has been with us for a long time; and we can not think of losing it. We therefore recommend that we be discharged from the further consideration of this case, and that the Bibb County Medical Society be retained on the roll.

In Chambers county there are twenty-three doctors, of

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whom all but two are graduates. The society numbers ten members. The annual report and the dues have been forwarded since our adjournment; and we find that while the society is not prosperous it is in a fairly hopeful condition. We therefore recommend that we be discharged from the further consideration of this case; and that the Chambers County Medical Society be retained on the roll.

The Colbert County Medical Society was chartered at the Montgomery session of 1881, at which session it was represented by one delegate and paid dues to the amount of eleven dollars. In 1882 it was not represented, made no report, and paid no dues, and the same state of affairs prevailing at the Birmingham session of last year, it was ordered under investigation. The investigation was attended with a great deal of difficulty, and finally it became necessary for the Senior Censor to pay a visit to the county. Without going into details it is sufficient to state that the society was revived, new officers elected, and such arrangements made, as lead us to hope that it will hereafter be able to maintain itself. We therefore recommend that we be discharged from the further consideration of this case, and that the Colbert County Medical Society be retained on the Roll.

The Crenshaw County Medical Society was granted a charter at the Mobile session of 1882, and has never attained a high grade of efficiency. Its report has been duly renderd since our last adjournment and the dues paid. While we are still doubtful as to its future usefulness, its condition does not demand its exclusion from the State Association. We therefore recommend that we be discharged from the further consideration of this case, and that the Crenshaw County Medical Society be retained on the Roll.

The Macon County Medical Society embraces in its membership all the regular physicians in the county save one; and it would seem as if it ought to be in a prosperous condition; but on account of dissentions amongst the members, and a very culpable amount of apathy and consequent neglect of duty, it does not get along well, and the promise for

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a better state of affairs is not encouraging. It has, however, since our adjournment last year, made its annual report and paid its dues, and under all the circumstances we are not prepared to advise its exclusion from the Association. We therefore recommend that we be discharged from the further consideration of this case, and that the Macon County Medical Society be retained on the Roll.

The Monroe County Medical Society has been a constituent member of the State Association ever since our reorganization after the war. It has never been a strong and prosperous organization, and has often failed to send delegates to our annual sessions. It has made its annual report and sent up its dues since our adjournment last year, and our inquiries lead us to believe that it is likely to improve in discipline and efficiency. We therefore recommend that we be discharged from the further consideration of this case, and that the Monroe County Medical Association be retained on the Roll.

The Pike County Medical Society has been much disturbed by contending factions since its organization in 1878 until within the past year or two. The result has been the loss of several of its members and the consequent reduction of its roll. But so far as we have been able to learn, this seems to have been an advantage to the society, which is now composed of a smaller number of more zealous and harmonious members. The annual report and the dues have been sent up since our adjournment last year, and altogether the society seems to be in a fairly hopeful condition. We therefore recommend that we be discharged from the further consideration of this case, and that the Pike County Medical Society be retained on the Roll.

THE REPORTS OF THE SECRETARY AND THE TREASURER.

We have examined the Annual Report of the Secretary, and find it satisfactory, with the exception of one or two errors, which will be pointed out by the Senior Censor for

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correction; and with this understanding we recommend its approval by the association.

We have examined the annual report of the Treasurer, together with the accompanying vouchers. We find it to be correct and satisfactory, and recommend that it be approved by the association.

At the last session of the association it was ordered that the Senior Censor should, at his convenience, examine the Book of Accounts. This he has done, and reports that he finds the Book of Accounts to be a large and substantial volume, of sufficient size to hold all the accounts of the association for many years. In it a separate page is set apart for every county medical society, for every counsellor, for the delegates to every session of the association, and such space as is needed for the committee of publication, the committee of arrangements, and for the several officers of the association. The accounts of the county societies, the counsellors, and the delegates are all written up from 1878. Some of the other accounts cannot well be sufficiently disentangled for separate statement for past years; but a good deal has been done in this direction, and for the future all the accounts will be separately and accurately kept.

THE ROLL OF THE CORRESPONDENTS.

For the Roll of the Correspondents we have agreed to recommend the following names:

George E. Kumpe, M. D., Sulphur Springs, Montana Territory.

Dr. Kumpe was a member of the association from 1871, and of the College of Counsellors from its organization, up to the spring of last year—1883—when he left the State. He was President in 1872, and a member of the Board of Censors from 1873 to 1879, and again from 1881 to 1882.

F. A. Ross, M. D., Mobile, Alabama.

Dr. Ross was a prominent member of the Association before the war, and after the war up to the adoption of the

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new constitution in 1873, since which time, that is to say, for eleven years he has been a member of the college of counsellors. He was President in 1871, and has always been recognized as a leader amongst us. His advancing years and increasing infirmities now make it necessary for him to retire from the active work of the association.

APPLICATIONS FOR CHARTER.

Applications for charter have been received from the following newly-organized county medical societies, namely:

The Medical Society of Cleburne county.
The Medical Society of Fayette county.
The Medical Society of Elmore county.
The Medical Society of Lamar county.

We have had the delegates of these societies before us, and while one or two are decidedly feeble organizations, we have determined to recommend that all of them be granted charters.

THE WORK OF THE COUNTY MEDICAL SOCIETIES.

The theory upon which our plan of organization has been projected may be stated in a few brief propositions:

(1) To interest every member of the medical profession in the State in our work and make him a participant in it.

(2) To place the work of organizing the county medical societies, and the work and responsibilities attaching to the administration of the laws to regulate the practice of medicine and the health laws of the State, in the several counties of the State, on the shoulders and consciences of the members of the medical profession of the said counties respectively.

(3) To teach the members of the medical profession that it is at the same time one of their most urgent duties and one of their highest privileges to do all the work imposed upon them, whether by the constitutional provisions of our medical organizations, State and county, or by the laws of

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the State, at the expense of their own time and labor and money.

(4) To teach the medical men of the State to understand and appreciate what so many of them seem disposed to forget, or to undervalue; namely: that the State has done a great deal for the profession, so that the profession in common gratitude and justice, can afford to do a great deal for the State.

(5) To teach the medical men of the State that the more unselfish work they do for the State and for the people of the State, the more will they entitle themselves to public gratitude and consideration, and the greater will be their influence in giving wise direction to all matters of public policy and legislation which in any way affect the relations of the medical profession to the State.

These abstract propositions will probably meet with very general acceptance; but the important question is, How to put into practical operation the principles they embody? This question is elaborately discussed in the commentaries and explanations contained in Chapters II, III, IV, of the Book of the Rules. Let these chapters, therefore, be thoroughly studied by all the members of the county societies; and to this end let them be read again and again in the county societies themselves, and discussed again and again until they become familiar as household words to all.

PART II—THE REPORT OF THE STATE BOARD OF MEDICAL EXAMINERS.

THE WORK OF THE STATE BOARD OF MEDICAL EXAMINERS.

During the past year no application for examination has been made to the State Board, so that under this head we have nothing to report. Graduates for various reasons prefer to go before their respective county boards; and undergraduates have learned that the object of our board is not

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to open an easy way to the acquisition of professional honors, and do not seem anxious to pass the ordeal of our examination.

In the meantime, however, a number of questions of greater or less importance in connection with the work and policy of our examining boards have been presented to us for consideration. It is important that all these questions should be definitely settled, and we therefore proceed to discuss them under separate heads.

THE TRIAL OF APPEALS.

For the first time since the enactment of the law to regulate practice, an appeal has been made from the decision of one of our county boards. The facts of the case are as follows:

Dr. J. W. Sandell, a graduate of the Georgia Eclectic Medical College, 1879, and a practitioner of five years standing, made application to the St. Clair county board for examination to practice the regular system of medicine, and was examined by said board in April of last year. His examination was unsatisfactory, and the board declined to grant him the certificate, whereupon he went to Atlanta, Georgia, and from that place addressed his appeal to this board, under date of the 15th of April, and in the following terms:

Mr. Jerome Cochran, Mobile, Ala.:

DEAR SIR—I have been unjustly examined by the Board of St. Clair County, Alabama. They refused to give me license to practice physic. Supposing they have forwarded my questions to the State Board, I appeal to you for necessary information to obtain a certificate, after the board has examined them and find the same not satisfactory. I have my diploma and have been practicing medicine for five years in South Carolina. Is it necessary for me to present myself to the State Board? Or can you send me questions, and I will respond, which will be sufficient? Please answer this and assist me, if you please."

To this letter of appeal the reply was made that the State Board of Medical examiners had no power to grant a certificate to practice medicine except on the basis of an ex-

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amination conducted by themselves, and that for this the applicant would have to appear in proper person before the board.

Nothing further was heard from Dr. Sandell, and so the question of his appeal was dropped at this point.

This is the first appeal that has ever been placed at issue before the State Board, and the question as to how an appeal should be tried had to be decided. The only rule of the Association in relation to appeals is to be found in the ordinance in relation to the Boards of Medical Examiners, section iv, sub-section (3), and is in these words: "That if at any time the applicant for examination shall believe himself to have been unfairly or unjustly treated by any County Board of Medical Examiners, he shall have the right to appeal from such County Board of Medical Examiners to the State Board of Medical Examiners, which shall make a careful investigation of the case and render a final decision." It is easy to see that this ordinance might be so construed as to authorize the State board to reverse the unfavorable decision of a county board by a mere examination of the papers in the case; but there are reasons both of policy and of law which contravene any such interpretation as this. There is nothing in the law giving one board of medical examiners the power to reverse the decision of another, and the power of the State Association to establish such a rule under that clause of the law of 1877 which provides "that the standard of qualifications required of persons desiring to practice medicine in this State, together with the rules for the government of the authorized boards of medical examiners," shall be such as the said medical association of the State may from time to time determine, can not be maintained for a moment. The provision for appeal depends on an entirely different principle. Under the law and in the absence of the rules established for their government by the State Association, it might be held that a rejected applicant might demand from the same board new examinations as often as he pleased to present himself, every month, or every

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week, or every day; or that he might travel from county to county and demand an examination from every board in the State. In the exercise of a wise and lawful discretion in the exercise of her authority to make rules for their government the State Association has made this folly impossible by ordering that the same person shall not be examined twice during the same year by the county boards. She has also legally and wisely excepted the State Board from this prohibition, so that if by reason of adverse local influences an injustice may have been done the remedy may be promptly found. If this argument is sound, and we think there is no doubt about that, it plainly follows, that the State board can try an appeal from a county board only in one way; namely, by an examination *de novo.*

It is not to be forgotten, in the meantime, that two adverse interests are concerned in the results of an appeal, namely, the applicant making the appeal, and the examining board whose decision is called in question. If the appeal results in the success of the applicant, this might be construed as implying the censure of the county board. If the appeal results in the failure of the applicant this might be construed as growing out of the disposition of one board to stand by the other, right or wrong. But in the nature of things the standard of the State board will always be, to say the least of it, quite as high as that of the county board whose standard is highest; and in the case of an appeal the applicant should exhibit such thoroughness of qualification as to establish his right to the certificate beyond all reasonable question. Under such circumstances he comes to the State board demanding justice; and justice is all he is entitled to receive, all consideration of leniency being manifestly out of place. For these reasons, and for others that need not now be mentioned, and in order that all the equities and proprieties involved in the issue may receive adequate consideration, it seems to us to be clearly expedient that the papers sent up by the county board should be carefully examined by the State board, and that a careful

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and critical estimate of them should be included in the State board's report of the case to the Association.

DEFECTIVE EXAMINATIONS.

It has been our disagreeable duty from time to time to be obliged to recommend the censure of our county boards of medical examiners. As a rule these delinquent boards have recognized the justice of the censure visited upon them, and have shown their good sense and good feeling by making their subsequent examinations more in harmony with the rules issued by the Association for their guidance. Indeed, we believe we have never had occasion to recommend the censure of the same board more than one time. But in the correspondence growing out of these votes of censure the question has been occasionally raised as to what constitutes an examination defective; and this question being one of practical importance seems to demand some notice at our hands.

Examinations may be defective in various ways. On the part of the examining boards they may be defective in scope by the entire omission of some of the departments of medical science which are required by the rules; or by the selection of questions of such superficial and elementary character that to answer them correctly would require but a small knowledge of the medical sciences. Examinations defective in either of these two ways indicate negligence, or something worse on the part of the boards making them, and do a flagrant injustice to the candidates examined, because no fair opportunity is afforded them to show the extent and character of their qualifications. On the part of the candidates examined examinations may be defective by the exhibition of answers in direct conflict with well established facts; or by answers correct enough as far as they go, but so inadequate and superficial as to furnish no sufficient evidence of respectable acquirements. Examinations defective in either of these two ways should be considered unsatisfactory, and should lead to the rejection of the can-

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didates concerned in them. The one sort of defect is a demonstration of ignorance, and certainly the other is not a demonstration of knowledge.

Question has been raised as to the proper comprehension and the allowable limitations of the oral and the written examinations respectively. We think it is clearly the correct construction to be put upon the several schedules prescribed by the Association for the guidance of examining boards to interpret them as meaning that both the oral examination and the written examination shall include all of the branches in which examinations are required to be made, and that it is not sufficient that in some of the branches the oral examination alone should be depended upon, while the written examination is omitted.

It is true that the county boards may sometimes ascertain the qualifications of a candidate to their entire satisfaction by the oral examination alone; but when the State Association undertakes to find out what sort of work the county boards themselves are doing we have nothing else but the written examinations, and these certainly should be of such compass and character as to enable us to judge with judicial firmness and intelligent circumspection.

One county board sending up extremely imperfect papers offers in explanation and excuse a statement like this:

"We were already satisfied as to Dr. Blank's qualifications, and therefore did not think it necessary in his case to make much of an examination."

Now, the members of this board ought to know that they have no legal right to be satisfied of the qualifications of a candidate in any other way than by examining him for themselves. Not upon any testimony of the faculty of any medical college, not upon the testimony of any number of professional acquaintances, not on the testimony of any clientel, however numerous and respectable, can they legally certify to the qualifications of any candidate. They must examine him for themselves. They should know, also, that an examination is intended to serve several other purposes

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besides the cardinal one of satisfying the board before whom it is made. It is intended to satisfy the State Association that the rules enacted for the government of the county boards are carried out with intelligent comprehension and reasonable good faith. It is intended to be kept permanently on file at the capitol of the State so that it can be used as evidence in the courts if question is raised of the competency of the board or of the validity of the candidate's claim to his certificate. It is intended to afford the candidate an opportunity to make a legitimate exhibition of his knowledge of medicine. But it needs no elaborate argument to show that such perfunctory examinations are discreditable to the boards that make them; unjust and injurious to candidates who are capable of better things; and demoralizing to everybody in any way connected with them.

In the case of another board which sent up examinations equally defective, some correspondence ensued between the secretary of the board and our Senior Censor, from the former of which we make a few extracts:

"This subject of examinations has been a troublesome one to my mind, both as to the method and the degree of examination. (1) As to the method, we as a rule have depended mainly on oral examination, which has been found most satisfactory to our board. True, we recognize the right of the State Association to review our work; and also the fact that the written papers are all that are before them, except the "passing" or "rejection" of the candidate by the examining board. The opinion of the board they must of course take upon trust tempered with what they know of the particular board in question. (2) As to the degree of examination. When I remember that by a relaxing rule of the State Association at Eufaula, I believe, many were admitted to license without examination who had no claim to it legally, to prevent reaction against the law; and also when I remember that it has been often stated that the examinations should be practical rather than theoretical, I am at a loss for a proper standard."

"The whole question is one involved in difficulty, and one which bears directly on future efforts, which will come, to repeal the law. I must confess that I think, while the county boards should be reviewed by the State board, the *mode* of examination, and the *degree* of examination will have to be left to a great extent to the discretion of the county boards, as they are immediately in contact with the candidates; and if men of proper judgment, and no others, should be on these boards, they will be better prepared to appreciate the environment of each case than a reviewing board."

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When one of our most intelligent physicians can lose himself in such a fog of inconsistencies and irrelevancies as that which pervades these extracts, it would seem as if there was occasion for explaining things that ordinarily seem too plain to need explaining.

(1) The board of which the writer of these extracted passages is a member, doubtless makes its oral examinations thorough and exhaustive; but it sends up to the State association a set of examination papers consisting of four pages of note paper, in which there are just four questions to be answered, and in which so important a malady as pneumonia is treated of on a single page! Our right of review is admitted. It is conceded that we have nothing on which to base our review except the written examination papers. But upon such papers as this it is impossible for us to certify to this association that this board has done its duty thoroughly and well. Is it not clear that under such circumstances we are literally forced to make a recommendation of censure?

(2) Our correspondent is of the opinion that the method of examination, and the degree of examination, should be left largely to the discretion of the county boards. But what would be the object, then, of any supervisory action on the part of this association? And especially in view of the express terms of the law of the State, which provides as follows: "That the standard of qualifications required of persons desiring to practice medicine in this State, together with the rules for the government of the authorized boards of medical examiners, shall be such as may be determined from time to time by the Medical Association of the State of Alabama." We have no discretion in the matter. These county boards are under our jurisdiction, and we must see to it that they do their duty.

But above all this we undertake to say that the usefulness and efficiency of the county boards of examiners, and the salvation of the law to regulate practice from disastrous ailure, is dependent on the power of regulation and super-

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vision which the General Assembly has wisely invested in this association. But for our supervision every county board would be a law unto itself; there would be practically no standard of qualifications; and the boards would degenerate into utter inefficiency and universal contempt with none poor enough to do them reverence.

Nevertheless, we do not by our supervision emasculate the county boards, do not absorb their functions, do not reduce them to the condition of puppets. We are not able to undo any work of theirs; cannot withdraw any certificates issued by them even if we know that they were issued to unworthy and incompetent persons. There is plenty of room left them for the use of intelligent discretion, and the utilization of their knowledge of the environments of the cases they have to pass upon. In our revision of the work of the county boards, we do not pretend to any infallibility of judgment; but our special function is to see that none of these boards shall be allowed without reprobation and rebuke to fall below a reasonable standard of requirements; and that they shall not be allowed to admit disgracefully ignorant and incompetent persons into the ranks of an honorable profession with authority to take charge of the health and lives of the people of Alabama.

(3) The reference made to a relaxing rule as having been passed at the Eufaula Session of 1878, is likely to prove misleading, and that in a mischievious way. In point of fact no such rule was ever passed, at that or at any other session. All that was done was to make a prudential recommedation to the county boards to proceed with caution and circumspection against a class of established practitioners who, if they could not claim the sanction of the law, could claim the sanction of custom and long-continued toleration; and this recommendation was based on other and more potent reasons than that mentioned by our correspondent. It was a wise and proper recommendation, and has nothing in the world to do with the question as to whether respectable written examinations should be required

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of every candidate for permission to practice medicine as a preliminary to the granting of the certificate sought.

THE EVILS OF UNFINISHED EXAMINATIONS.

It has happened on several occasions that examinations have been commenced, and sometimes for one reason, and sometimes for another, have been left unfinished.

In one case where the applicant had to present himself separately to every several member of the board of examiners for his written examination some of the members were busy and put him off from time to time until he got tired of repeating his unfruitful solicitations, quit trying to have his examination finished, and went to practicing without authority of law. Several months later his examination was resumed and completed, and he got his certificate on a very poor set of papers. In this case, of course, the board of examiners was culpably negligent of its duty.

In another case where the applicant, who belonged to an influential family, proved to be disgracefully ignorant, so much so that the examining board felt ashamed to give him a certificate on it and to send it up to the State association as a specimen of the sort of work it was in the habit of doing, it was agreed between the applicant and the board that the examination should be considered as not having been made; that the applicant should devote some further time to study, during which time he should not engage in practice; and that after a few months, when he felt better prepared, he should present himself again for examination. The result was that he engaged in practice anyhow, in violation of his promise, and of the law, too, and has so continued for several months without molestation by the board or anybody else. Doubtless the ultimate result will be that, out of respect for the family influence, and in consideration of the further fact that he has taken root in the community as a practitioner, he will some day be examined again, and get a certificate which the board will feel he is not entitled to. Examining boards ought not to allow themselves to be made

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use of in this way. This case should have been decided at once, either by the granting of the certificate, or by a definite rejection.

In another case application was made to a board of examiners by a young man whom they knew to be incompetent. Several of them put him through an informal oral examination, to prove to him that he was not prepared for the trial, and advised him to withdraw his application, which he did. After a few months he went into another county, was examined, passed a miserable examination, got his certificate nevertheless, and now, if he pleases, can go back and practice side by side with the members of the first board.

In another case, where the plan of examination required the applicant to go from member to member of the board, the applicant took his own time after such a liberal fashion that at the end of three months he had been examined in only a few of the branches, when he was notified if he desired an examination he must commence over again and go through in a reasonable time. Here the delay was not the fault of the examiners, but of the applicant, who, perhaps, thought he could cram specially for each successive branch.

In two or three other cases the applicants, in the course of the written examination, became convinced of their own incompetence and incontinently backed out without asking the consent of the examining boards. In these cases of course no blame can be attached to the examining boards.

The lesson taught by the histories here given is, That the boards of medical examiners should always require a formal application, with satisfactory proof of graduation; and should then make a complete and formal examination, with strict observance of all the instructions contained in the Book of the Rules.

PRELIMINARY EXAMINATIONS.

Very few questions have more frequently engaged the attention of the Association than that of the preliminary

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examination of persons proposing to begin the study of medicine; and of the propriety and desirability of such preliminary examination there has always been amongst our members practical unanimity of opinion.

In the Constitution of 1873, in the section prescribing the duties of the boards of censors of the county societies, article 71 provides that it shall be their duty "To examine all persons hereafter proposing to study medicine in their respective counties; and no practitioner shall receive as a student of medicine any one who does not hold a certificate of having passed a favorable preliminary examination of the board of censors of his county."

In our report for 1876 occurs the following statement, which received the approval of the Association:

"In relation to the over-crowding of the medical profession by incompetent men, we believe that the evil can be materially diminished by the application of very simple measures, provided, that the application of these measures is faithfully made. We would have it assulted where it is most vulnerable, namely, in its cradle—in its very origin and inception. If nobody was allowed to commence the study of medicine except such persons as have good natural ability and a decent preliminary education, it is easy to see that the number of doctors annually graduated in this country would be very greatly diminished, and would be diminished by the exclusion of that class of doctors which it is most desirable to get rid of, namely, the class of ignoramuses and incompetents."

In 1878, on our recommendation, the Association adopted the subjoined resolution:

Resolved, That the secretaries of the county medical societies in affiliation with this Association, are requested to include in their annual reports to this Association, some special mention of the enforcement or non-enforcement of the constitutional rule in relation to the preliminary examination of students; and that the Secretary of this Association is hereby instructed to call special attention to this resolution in his annual circular announcement."

It is of course understood, while the constitution of the Association made provision for these preliminary examinations, and while the Association year after year urged their importance on the county societies, that for ten years after the adoption of the constitution it was still left to the dis-

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cretion of the several county societies whether or not the rule should be enforced in their respective counties. This discretionary decade expired at the time of the meeting of the Association last year; and upon our recommendation to that effect a rule was passed requiring county boards of censors hereafter to send up to the State Board of Medical Examiners the examination papers in these cases of preliminary examination in the same way as they now send up the examination papers of those who are examined for the practice of medicine.

A resolution was also passed at the last session requesting the Medical College of Alabama to make the presentation of a certificate of a successful preliminary examination by some county board of censors a condition precedent to the admission into that institution of Alabama students from counties in which such boards of censors exist. The adoption of some such rule by that and other institutions devoted to medical teaching would greatly facilitate the work we have undertaken. All the more so, since it is to be feared that a good many Alabama students, in order to avoid this examination, now study without the assistance of preceptors, trusting to get on somehow when they get to the medical school.

THE COMPENSATION OF EXAMINING BOARDS.

The question of the compensation of the members of the Boards of Medical Examiners, which has been frequently discussed, has been recently brought anew to our attention by a letter from the very efficient president of one of our county boards. So much of this letter as is pertinent to our purpose is here subjoined:

"Ought not the legislature to make an appropriation to pay the county boards something?

The duties imposed upon us make too heavy a task for us to do it simply as a labor of love. I rode last year nearly one hundred and fifty miles on horseback attending to these duties, besides incurring pecuniary losses by absence from business; and this year I have had almost as much trouble and labor as last year. This is a very important, and very laborious, and

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very responsible service we do for the State; and the State ought not to expect or require us to render this service gratis. It is a reform the people don't want, and I for one feel but little inclined to perform the thankless and unpleasant task without any reward at all. Ten dollars for each examination would not remunerate *me*. The exclusion of incompetent medical men from the State is of inestimable benefit to the State, and the State ought to pay its servants who do it. A liberal fee paid by the State for every graduate examined, regardless of the result of the examination, would, it seems to me, be both right and proper."

The argument of this letter is extremely plausible. Indeed, looking at the question only from the side by which the writer approaches it, it is more than plausible, it is conclusive. But this question, like most of the questions that give rise to discussion amongst men, has two sides to it, and in any attempt at the solution of the problem involved in it, it will be well to consider them both.

It is very certain that for many years to come the State of Alabama could not be induced to make any appropriation for the purpose of paying boards of medical examiners; and, consequently, the only method by which these boards could obtain any remuneration would be by the imposition of a charge of, say ten, fifteen, or twenty dollars on every candidate examined. The State might perhaps be induced to allow this to be done; but even if this plan was adopted the compensation that would accrue to any special board would be so small that it would not serve as an inducement to the discharge of duty. And beside, insufficient recompenses are always to be avoided. Even if there was but one examining board in the State, and that composed of only five members, the pay for each one that could be drawn from fees paid by candidates would not be more than one or two hundred dollars a year—a recompense still entirely too small to be taken into serious consideration. It is idle, then, to talk about the payment of our examining boards in money, or in money's worth.

Fortunately for the prosperity of enterprises that are not backed by plethoric purses, there are other motives that control men's actions quite as potently as money does.

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Indeed, all the best work in this world is done for nothing, as the phrase is, or else paid for out of the pockets of those who expect no harvest of dollars in return. The monetary burthens paid by the people in the shape of taxes for the support of civil government are immense; but it is only in a very indirect way that any man expects to collect money dividends from his taxes. The expense of sustaining a great church organization—say, for example, the methodist church—is very great; but the needed money comes cheerfully out of the pockets of its members without any expectation that it will ever come back to them increased by usury. Now it might be plausibly argued that the methodist church is a great public benefit, as it undoubtedly is, and that therefore the money necessary for its support should be paid by the general public, or by the State. And this very argument has led in some counties to the subsidizing of churches out of the State treasury. But in this country it has been judged best to leave the methodist—or any other church—to be supported by its own members, and these pay little or much, not so much according to their means as according to their christian charity and denominational zeal.

Or, to come still nearer home, take our State Medical Association. This also is an agent of public benefactions; but not for that reason does the State step in and take away from us the privilege of paying our way out of our own pockets; and we use the word privilege advisedly—for has it not been said by one who spake as never man spake, that it is more blessed to give than to receive. One of the benefactions we confer on the public is the administration of the health laws of the State; and another is our administration of the law to regulate the practice of medicine.

This brings us back to the boards of medical examiners. There can be no question that these boards do confer great benefits on the public by checking the supply of incompetent practitioners, and this is a service for which a wise public could well afford to make liberal payment. But, as

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we have seen, this is not to be thought of. If we do this service at all we must do it without any recompense in money wages. If we could expect no other recompense than the gratification of knowing we had served our fellow men we should still insist that it was our duty to do it.

But do not let us deceive ourselves. While by the administration of this law we benefit the public, it is certain also that we benefit to even a greater degree the medical profession to which we belong. In this way we diminish the number of doctors, and rid ourselves of the degrading competition of unworthy and incompetent men; and in this way we increase the dignity, power, influence, and prestige of the profession in the circles of social life, and in the councils of the State. For such advantages as these we can well afford to take upon ourselves the labor, and worry, and responsibility, and incidental losses from neglected business, which are involved in the work of our boards of medical examiners without the additional reward of the almighty dollar.

THE REGISTERS OF LICENSED PRACTITIONERS.

The law for the regulation of the practice of medicine provides that the probate judge of every county to which the law applies shall keep a well bound book, to be called the register of licensed practitioners of medicine, in which is to be made a full and fair copy of all certificates issued by the county board of medical examiners, whether *pro forma*, or after examination.

In the instructions issued by this Association for the guidance of the county boards of medical examiners it is provided, that every such board shall keep a book in which it shall inscribe all the certificates issued by it. So far these two registers are identical; and for this reason some of the county boards of medical examiners have thought that it was not necessary for them to keep the required register, and in violation of the rule have neglected to do so, excusing themselves on the ground that the register in the

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probate judge's office was sufficient. At first glance this looks like a plausible excuse; but under the influence of a little critical analysis, its plausibility vanishes like dew before the sunshine:

(1) It is fitting that all business, and especially all public business where the rights and privileges of citizens of the State are involved, should be done in a careful, systematic, and orderly way.

(2) Every public body—every board invested with public functions—for the information of the public and for its own protection should keep accurate records of its own proceedings.

(3) Some of those who receive certificates may fail to have them recorded in the office of the probate judge, and in various ways they may be lost or destroyed. In such cases the record kept by the board might be of considerable value.

(4) If the register in the probate judge's office were in any way lost or destroyed, it could be substantially reconstructed from the register kept by the board.

Other arguments might be given, but these are quite enough to show that the rule in question is a wise one, and one that ought to be scrupulously obeyed.

In addition to the register of licensed practitioners of medicine, every county board of examiners should keep, either in a separate volume or in the same volume with the register, a complete record of all changes in its organization, of all its meetings, and of all its proceedings, not forgetting a full account of all examinations in which the applicant fails to get the certificate, and of all examinations preliminary to the study of medicine.

FORM OF NOTICE TO PROBATE JUDGE.

HON. BLANK BLANK:

Probate Judge, Blank County.

SIR: It becomes my duty, in behalf of the Board of Censors of the Medical Association of the State of Alabama,

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conduct the oral examination; and very specially, to discuss the written examination papers, and the propriety of granting or refusing the certificate? Or contrariwise, has the custom been to send the papers and the applicant from member to member for separate examination and decision?

(3) Are any persons in your county engaged in the practice of medicine without certificates of examination and in violation of law? If so, send names and full particulars.

(4) Have all the physicians in your county who have received certificates had them registered in the office of the probate judge? If any have failed to comply with the law in this respect please send names and facts.

(5) Does your board keep on hand and require the use of the printed blanks for applications, as per page 81 of the Book of the Rules? If not, why not?

(6) Does your board keep the "Register of Licensed Practitioners of Medicine" as required by sub-section (4) of Section Three of the Book of the Rules? And if not, why not?

(7) Have there been any prosecutions in your county before any of the courts for violation of the law to regulate practice? If so, please send names and facts.

(8) Is the rule in relation to the preliminary examination of medical students duly observed in your county? If it has been disregarded during the current year please send names and facts.

(9) Has your society been in the habit of observing the special recommendation on page 94 of the Book of the Rules?

This letter, as already stated, is specially addressed to the Boards of Medical Examiners through their presidents; but copies will also be sent to the presidents and secretaries of the several county societies with the hope of provoking the interest of these organizations, also, in the important questions at issue. Prompt and full responses are earnestly requested.

It was hoped in this way to obtain at least approximately correct information as to the efficiency or the inefficiency of the several county boards of medical examiners; the methods severally adopted by them in the discharge of their important functions; and the measure of success or of failure which had severally characterized them in their administration of the law to regulate the practice of medicine. As a rule the boards responded promptly, although some few of those which had done their work after a fashion of which they could not help but feel ashamed, seemed inclined to escape the purposes of the inquisition by maintaining an obstinate silence, or else by sending such vague and indefinite statements as afforded very slight indication of the

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real facts. This was found to be the case especially in regard to the registration of certificates; and in order to clear up this point letters were addressed to the probate judges of the several counties. All of the probate judges responded, most of them cheerfully and promptly.

The results of these elaborate inquiries may be briefly given:

(1) In three counties, two of them chartered several years ago, and one of recent date, the certificates *pro forma* had never been issued at all, and of course had never been registered.

(2) In the other counties certificates had been generally issued. In about half of them the registration had been generally attended to. In others registration had been more or less neglected. In some half dozen the neglect extended to from one-fourth to one-half of the total number of practitioners.

(3) The aggregate number of unregistered practitioners was found to be over 200. Almost all these were found to be entitled to certificates. Indeed, most of them had certificates, and had simply neglected to have them registered, not seeming to understand that failure to register makes them illegal practitioners.

(4) The number of illegal practitioners in the strictest sense of the term, that is to say, of persons practicing, not simply in neglect of the law, but open violation of the law—persons not entitled to *pro forma* certificates, and who had either avoided examination altogether, or whose examinations had not been satisfactory to the examining boards—was found to be comparatively small, amounting in all the counties to less than twenty. These cases are all severally mentioned in the special reports for the several counties.

(5) The total number of prosecutions in the several counties for violation of the law to regulate practice was found to be twelve. In all of these cases so far as disposed of the result has been the substantial vindication of the authority of the law.

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(6) It was found that a considerable number of county boards had failed to keep any record of their work, and specially the register of licensed practitioners as prescribed by an ordinance of the Association. It is partly on this account that so many boards found it impracticable to make definite and satisfactory reports. Negligence in a matter of so much importance as this is without justification or excuse, and deserves the severest censure of the Association. We do not add more here because this question of registers is thoroughly discussed in another part of this report.

(7) In one county there seems to have been a special effort made to circumvent the law by the registration of diplomas instead of certificates. Eleven grave and reverend doctors engaged in this ingenious and mischievous amusement, five of them, strange to say, members of the county medical society. Of course this proceeding was of no earthly advantage to anybody in the world, except to the probate judge to the amount of his fees.

(8) The profession of the State generally seem not to have entertained any adequate appreciation of the importance and dignity that intrinsically attaches to the certificates issued by our boards of medical examiners. Every doctor feels more or less proud of his diploma, and guards it against loss or mutilation with assiduous care. Every Alabama doctor should understand that his certificate, since it invests him with the title to more important privileges, should be still more highly prized. Here the diploma does not open the way to practice, while the certificate does; and there can be no doubt that as soon as our system is understood in other States our certificates of examination will take higher rank than college diplomas.

(9) For the rest, and in spite of all the shortcomings which we have so circumstantially indicated, we are glad to be able to say, that we consider the administration of the law to regulate the practice of medicine in Alabama as already an established and demonstrated success. The law

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itself is defective in many ways; and the materials out of which we have to construct our boards of medical examiners are also defective in many ways; and these many defects are very greatly to be regretted. All the more, however, because these things are so, may we be allowed to congratulate ourselves on having already achieved so much.

The members of the profession, spread through so many counties, have exhibited an amount of apathy and obtuseness, and of negligence of their privileges and opportunities almost beyond all *a priori* possibilities of belief. But under and over and around and besides all this they have shown themselves thoroughly plastic for professional organization, legally obedient to the professional ethics, pervaded through and through by the subtle influences of professional brotherhood, and capable of any amount of self abnegation in order to the furtherance of the cause of professional reformation. They have been often weak, but never false.

THE WORK OF THE COUNTY BOARDS OF MEDICAL EXAMINERS.

The Autauga county board reports that no examinations for the practice of medicine have been made in that county in 1883; and none for the study of medicine.

This board had never issued the *pro forma* certificates to physicians of the county legally engaged in the practice of medicine at the time of its organization. One of the results of the investigation of the boards of medical examiners, however, was to awaken them to the discharge of this duty, and the certificates have now been issued, and registered.

The Barbour county board reports the examination for the practice of medicine of—

Junius Kincaid Battle, M. D., of the University of Louisiana, 1883. Certificate granted.

Egbert Beal Johnson, Jr., M. D., Alabama Medical College, 1883. Certificate granted.

Leroy Jonstone Simpson, M. D., Bellevue Hospital College, 1883. Certificate granted.

These examinations are all excellent. The questions are numerous and well chosen, and the answers are full and satisfactory. We have but one criticism to offer, namely, that Ethics is omitted from all the examinations, hygiene from one, and physiology from one.

This board also reports the preliminary examination of—

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John Samuel Johnson. Certificate granted. By mistake of the county board the papers in this case were not preserved.

This board conducts its examinations strictly in accordance with the plan laid down in the Book of the Rules, and with the applicants under strict surveillance. It enforces the rule with regard to the preliminary examination of students. It has not kept the "Register of Licensed Practitioners of Medicine," required by the rules.

The Bibb county board reports that no examinations for the practice of medicine has been made in that county in 1883; and none for the study of medicine.

There are two illegal practitioners in the county, namely, Mr. Amassa Sessions; and Mr. F. M. James. Both of these have been prosecuted. In the case of James it was not proven that he had received pay for his services, and he was discharged. The case of Sessions is still pending.

The Blount county board reports the examination, in 1883, for the practice of medicine, of—

Joseph Franklin Hendrix, M. D., Atlanta Medical College, 1883. Certificate granted.

William M. Finley, Jr., M. D., Universities of Nashville and Vanderbilt, 1879. Certificate granted.

The examination papers in these cases have not been forwarded to the Board of Censors, as is required by the rules. We have good reasons, however, for knowing that these examinations were conducted in an extremely lax and unsatisfactory fashion, and we therefore recommend that we be authorized to notify the board of medical examiners of Blount county that this Association regards with grave dissatisfaction the extremely imperfect way in which they have heretofore conducted their examinations; and also their failure to conform to the rule in regard to forwarding the written examination papers to the State Board of Censors.

The Bullock county board reports the examination, in 1883, for the practice of medicine of—

James Madison Bean, M. D., University of Lousiana, 1883. Certificate granted.

We have no fault to find with this examination as far as it goes; but it does not include chemistry, public and private hygiene, medical jurisprudence, and medical ethics, which is a somewhat liberal indulgence in omissions. We hope, however, that this reminder will make this board more careful in future.

It has been the intention of the board to enforce the rule in relation to the preliminary examination of students; nevertheless a son of Dr. Reynolds, the doctor being a member of the county medical society, studied in his father's office without having undergone the preliminary examination. The county board are of the opinion that this failure was more the result of negligence than of an intention to avoid the examination.

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This board conducts its examinations strictly in accordance with the plan laid down in the Book of the Rules, and with the applicants under strict surveillance. It keeps the "Register of Licensed Practitioners of Medicine" as required by the rules. All the practitioners in the county have been registered in the office of the probate judge. There have been no illegal practitioners in the county, and hence no prosecutions.

The Butler county board reports the examination, in 1883, for the practice of medicine of—

Jabez Johnson Garrett, M. D., Georgia Eclectic Medical College, 1882. Certificate granted.

Robert Edward Smith, M. D., Alabama Medical College, 1882. Certificate granted.

Dr. Garrett's examination was in four branches for the practice of the eclectic system. It is fairly well done, except that the examination in chemistry is too elementary and superficial. The examination of Dr. Smith is full and satisfactory in the branches included in it; but public and private hygiene and medical ethics are omitted.

There are two illegal practitioners in this county, namely, Dr. W. E. Roper, M. D., of Bellvue Hospital Medical College, 1883, who has never finished his examination before the county board of medical examiners begun some six months ago; and Mr. L. S. Tillery, a non-graduate. There have been no prosecutions in this county for violation of the law to regulate practice.

The Calhoun county board reports the examination, in 1883, for the practice of medicine of—

Frank P. Sanders, M. D., Atlanta Medical College, 1883. Certificate granted.

James Edward Crook, M. D., Vanderbilt University, 1883. Certificate granted.

Henry Clay Pryor, M. D., Vanderbilt University, 1883. Certificate granted.

Henry Mabbett, M. D., Savannah Medical College, 1876. Certificate granted.

Two of these examinations are defective on the part of the board by the omission of public and private hygiene, medical jurisprudence, and Medical ethics; and the papers were sent up in bad order.

This board also reports the preliminary examination of W. P. Brothers. The papers show that the examination was properly made, and the answers are creditable to the applicant.

This board has usually made its examinations in accordance with the plan laid down in the Book of the Rules. Recently, however, they have been more lax, and one examination was made in which the applicant was under no other surveillance than his word of honor. We are assured that this will not be allowed to happen any more.

This board has, also, endeavored to enforce the rule in regard to the pre-

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liminary examination of students, as in the case of Mr. Brothers. One young man, however, disregarded the rule—a Mr. Montgomery, of Jacksonville. He made application and went to Oxford to be examined. But that day the board failed to have a quorum, and declined to act, whereupon he withdrew the application, read medicine in the office of his brother, Dr. C. H. Montgomery, and subsequently attended the medical college at Mobile. Dr. Montgomery was a member of the county medical society, but resigned his membership. There have been no prosecutions in this county for violation of the law to regulate practice.

The Chambers county board reports that no examination for the practice of medicine was made in that county in 1883; and none for the study of medicine.

The Chilton county board reports that no examination for the practice of medicine was made in that county in 1883; and none for the study of medicine.

The Choctaw county board reports that no examination for the practice of medicine was made in that county in 1883; and none for the study of medicine.

This board conducts its examinations in strict accordance with the plan prescribed in the Book of the Rules; and with the applicant under strict surveillance.

There are no illegal practitioners in the county; and there have been no prosecutions for violation of the law to regulate practice.

The Colbert county board reports that no examination was made in that county in 1883 for the practice of medicine; and none for the study of medicine.

The Conecuh county board reports that no examination for the practice of medicine was made in that county in 1883; and none for the study of medicine.

This board conducts its examinations in accordance with the plan prescribed in the Book of the Rules; and with the applicants under strict surveillance.

This board had never issued the *pro forma* certificates to physicians of the county legally engaged in the practice of medicine at the time of its organization. One of the results of the investigation of the boards of medical examiners, however, was to awaken them to the discharge of this duty, and the certificates have now been issued and registered.

The Coosa county board reports that no examination for the practice of medicine was made in that county in 1883; and none for the study of medicine.

This board has never had an examination to make, but proposes to act in strict accordance with the plan prescribed in the Book of the Rules.

There are no illegal practitioners in this county; and there have been no prosecutions for violation of the law to regulate practice.

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The Crenshaw county board reports that no examination was made in that county in 1883 for the practice of medicine; and none for the study of medicine.

The Dallas county board reports there have been no examinations for the practice of medicine in that county in 1883. The rule in regard to the preliminary examination of students is enforced, but last year there were none to be examined. There have been no prosecutions for violation of the law to regulate practice, and there are no illegal practitioners in the county.

The Etowah county board reports that no examination for the practice of medicine has been made in that county, except such as have been already reported in 1883; and none from the study of medicine.

There has been no presecution for violation of the law to regulate practice; but there are three illegal practitioners in the county, namely:

W. F. Funderberg, M. D., Atlanta Medical College, 1883. He failed to pass a favorable examination before the county board.

A. M. Graves, M. D., who commenced his examination, but backed out before it was finished.

F. A. Liddell, M. D., Atlanta Medical College, who has been summoned before the board, but paid no attention to the summons.

There have been no prosecutions in this county for violation of the law to regulate practice.

The Greene county board reports that no examinations were made in that county in 1883, either for the practice of medicine or preliminary to beginning the study.

There are no illegal practitioners in this county.

W. P. Cabler, a peripatetic charlatan, was arrested for violation of the law to regulate the practice of medicine. He was brought before a justice of the peace; gave a bond of one hundred dollars for his appearance before the grand jury, and left the county. His sureties paid the bond.

The Hale county board reports the examination for the practice of medicine of—

Eugene DuBose Bondurant, M. D., University of Virginia, 1883. Certificate granted.

This examination is excellent, both on the part of the board and on the part of the applicant. The questions are well chosen, and cover all the branches; and the answers are singularly clear, full, and accurate.

This board conducts its examinations in accordance with the plan prescribed in the Book of the Rules; and with the applicant under strict surveillance.

There are no illegal practitioners in the county, and there has been no prosecution for violation of the law to regulate practice.

The Henry county board reports that no examination for the practice of medicine has been made in that county in 1883; and none for the study of medicine.

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The Jackson county board reports that no examination for the practice of medicine has been made in that county in 1883; and none for the study of medicine.

This board conducts its examinations in accordance with the plan prescribed in the Book of Rules; and with applicants under strict surveillance.

There has been no prosecution for violation of the law to regulate practice; and there are no illegal practitioners in the county.

The Jefferson county board reports the examination for the practice of medicine of --

Henry Thomas Heard, M. D.. Georgia Medical College, 1857. Certificate granted.

John S. Gillespie, M. D., Miami Medical College, 1883. Certificate granted.

Abbott E. Meadows, M. D., Pulte Medical College (Homeopathic), 1883 Certificate granted.

James Henry McCarthy, M. D., Atlanta Medical College, 1880. Certificate granted.

Francis Vivian Clockley, Hahnemann Medical College, 1881. Certificate refused.

Eli Spear Jones, M. D., Alabama Medical College, 1883. Certificate granted.

Robert McWhorter Cunningham, M. D., Bellevue Hospital Medical College, 1879. Certificate granted.

John P. Abercrombie, M. D., Atlanta Medical College, 1880. Certificate refused.

The scope of these examinations is defective by the omission of medical jurisprudence, public and private hygiene, and medical ethics, only one of them covering the whole ground, and the subject of medical ethics being touched upon in one or two others. Otherwise the scope of the examinations is good. The papers were badly cared for; and a large part of Dr. Cunningham's examination lost altogether.

This board adopts the method of sending the applicant successively to the several members of the board for the written examination in the several branches. At each office he is kept under strict surveillance while writing the answers to his questions.

There are no illegal practitioners in the county, and there have been no prosecutions for violation of the law to regulate practice.

The Lawrence county board reports that no examinations for the practice of medicine; and none preliminary to the study of it, have been made in that county in 1883.

This board has conducted the written examinations by sending the applicant around to the different members.

There are two persons practicing in the county in violation of the law to regulate practice, namely:

James Meadows, a non-graduate.

James Young, a non-graduate.

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There was one prosecution before a justice of the peace which was decided in favor of the defendant on the ground that the law was unconstitutional—a sort of jurisdiction never conferred on such courts.

The Lee county board reports that no examinations for the practice of medicine, and none preliminary to the study thereof, have been made in that county in 1883.

Only one examination has ever been done by this board, and in that the surveillance was not sufficiently strict to prevent consultation of authorities.

The Limestone county board reports the examination for the practice of medicine of—

Benjamin Grigsby Copeland, M. D., Jefferson Medical College, 1883. Certificate granted.

This examination covers all the branches and was fairly well made.

This board has so conducted its examinations that applicants have had access to no authorities except Dunglison's Medical Dictionary, and does not know whether any of them used that. There are no illegal practitioners in the county; and there have been no prosecutions.

The Lowndes county board reports the examination for the practice of medicine of—

William Peake, M. D., Vanderbilit University, 1883. Certificate granted.

William Calvin Weaver, Tennessee University, 1883. Certificate granted.

Eugene H. C. Snow, M. D., Tennessee University, 1883. Certificate refused.

This board also reports the preliminary examination of—

Felix Tankersly, Jr. Certificate granted.

The examinations for the practice of medicine cover all the required branches except medical ethics; and the questions are well chosen to test the knowledge of the applicants; but the answers in the two successful cases, to say nothing of the unsuccessful case, are not up to the high standard we desire to see established and maintained by our Alabama boards of examiners. Inasmuch as this board has heretofore done good work we do not recommend any special censure so far as the examinations for practice are concerned.

In the preliminary examination, physics and chemistry, so important to a medical student, are omitted altogether, for the reason that the applicant stated in advance that he knew nothing of those sciences. The answers in English literature and in history show that he was equally ignorant of those branches. The examination, therefore, is not at all creditable to the applicant; and is still less creditable to the board; and is in every way in flagrant violation of the rules. In allowing this young man to commence the study of medicine with so conspicuous a want of proper preparation the board has done him an irreparable injury; and have so failed in the reasonable discharge of its own duty, that we are constrained to recommend that we be authorized to inform said board of the grave dissatisfaction of the Association of the laxity with which this examination was conducted.

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This board has, in most things, pursued the plan recommended in the Book of Rules; but while they have in some cases kept the applicant under surveillance, in others they have trusted to his honor. There are no illegal practitioners in this county. There was one prosecution about two years ago, in the case of H. P. Grant, who pleaded guilty and was fined.

The Macon county board reports that no examination for the practice of medicine was made in that county in 1883, and none for the study of medicine.

This board has never made but one examination, and that was loosely done.

There are no illegal practitioners in the county, and there have been no prosecutions for violation of the law to regulate practice.

The Madison county board reports the examination in 1883 for the practice of medicine of—

Charles E. Blanton, M. D., Vanderbilt University, 1882. Certificate granted.

Francis Vivian Cleckley, M. D., Hahnemann Medical College, Philadelphia, 1881. Certificate refused.

This board further reports that no examination was made in the county in 1883 for the study of medicine; and that there are no medical students in the county.

This board has placed applicants during their examination under only partial surveillance, and partly upon honor. In two cases the board itself suspected applicants of having consulted books. These applicants were both rejected. But the board is greatly to blame for having placed them in a position of such cruel embarrassment.

There are no illegal practitioners in the county. There were two prosecutions commenced in 1883, one against Dr. A. W. Hatcher, and one against Dr. William G. McElvy, which resulted in arrangements satisfactory to the board of examiners, and the dismissal of the cases.

The Marengo county board reports the examination for the practice of medicine of—

Henry Jefferson Durden, M. D., South Carolina Medical College, 1883. Certificate refused.

Charles Brooks Thomas, M. D., Atlanta Medical College, 1883. Certificate granted.

Thomas S. McCorkle, M. D., Alabama Medical College, 1883. Certificate granted.

The scope of these examinations is good, except that the important subjects of public and private hygiene, medical jurisprudence, and medical ethics, are omitted. The questions are well chosen to test the knowledge of the applicants; and the answers of the successful applicants show them to have been fairly well posted.

This board conducts its examinations in strict conformity to the plan

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prescribed in the Book of the Rules; and keeps applicants under strict surveillance.

There are no illegal practitioners in the county, except that a few have neglected to have their certificates recorded in the office of the probate judge.

There has been one prosecution in this county for violation of the law to regulate practice.

The Mobile county board reports the examination for the practice of medicine of—

Ernest William Auzel, M. D., University of Maryland, 1881. Certificate granted.

William T. Hamilton, M. D., Alabama Medical College, 1880. Certificate granted.

Robert Gordon Southall, Jr., M. D., Alabama Medical College, 1883. Certificate granted.

H. C. McAdams, M. D., Alabama Medical College, 1883. Certificate granted.

F. R. Robey (colored), M. D. Certificate refused.

The papers in these cases were not sent up in good order. The examinations are all defective by the omission of public and private hygiene, medical jurisprudence, and medical ethics; and in the case of Dr. Hamilton, Chemistry is also omitted. For the rest the several sets of papers are of very unequal value. Dr. Auzel's examination is extremely good. Dr. Southall's is good. The others do not come up to the standard we would like to see established and maintained in Alabama.

The Monroe county board reports the examination for the practice of medicine of—

George Walter Gaillard, M. D., Louisville Medical College, 1882. Certificate granted.

This examination is an extremely superficial one, the answers covering only two pages of letter paper, and therefore affording no criterion of Dr. Gaillard's qualifications. We, therefore, recommend that we be authorized to notify the Board of Medical Examiners of Monroe county that this Association regards with grave disapproval the extremely imperfect way in which this examination was made.

This board reports also that no examination for the study of medicine was made in that county in 1883.

There was one prosecution for violation of the law to regulate the practice of medicine. This case was that of Dr. E. F. Dockery, who was indicted for two offenses, and was in jail awhile, because he could not give bond. This case is still pending.

Since the above was written Dr. Dockery has been convicted, and, being unable to pay his fine, has been sent to jail.

The Montgomery county board reports the examination for the practice of medicine of—

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Cornelius Nathaniel Dorsett (colored), M. D., University of Buffalo, 1882. Certificate granted.

The papers in this case came up in very bad order. The scope of the examination is defective by the omission of public and private hygiene, medical jurisprudence, and medical ethics. The written examination may be allowed to pass, especially as the oral examination is reported to have been very good.

This board conducts its written examinations by sending the applicant from one member of the board to another. The several members are careful to keep the applicant under surveillance during their several examinations.

There are no illegal practitioners in the county, and there has been no prosecution since that of Dr. Clark in 1880, the details of which have been already published.

The Morgan county board reports that no examination was made in that county in 1883 for the practice of medicine, and none for the study of medicine.

The Perry county board reports the examination for the practice of medicine of—

William Henry Langhorne, M. D., Jefferson Medical College, 1883. Certificate granted.

This examination is defective on the part of the board by the omission of chemistry, public and private hygiene, medical jurisprudence, and medical ethics. On the part of the applicant its quite creditable.

This board conducts its examinations in strict conformity with the plan laid down in the Book of the Rules, and keeps the applicant under strict surveillance.

There are no illegal practitioners in this county, and there have been no prosecutions for violation of the law to regulate practice.

The Pickens county board reports that there was no examination in that county in 1883 for the practice of medicine, and none for the study of medicine.

There are no illegal practitioners in the county, and there has been no prosecution for violation of the law to regulate practice.

The Pike county board reports that no examinations for the practice of medicine have been made in that county, and none for the study of medicine.

There are no illegal practitioners in this county against whom it has been thought worth while to bring suits. One man in a neighborhood fifteen miles from any doctor, and one old woman, are all who are without certificates.

The Randolph county board reports the examination for the practice of medicine of—

John Wesley DeVaughan, M. D., Vanderbilt University, 1883. Certificate granted.

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This board also reports that in 1883 there were no examinations in that county for the study of medicine.

Dr. DeVaughan's examination is defective by the omission of surgery, public and private hygiene, medical jurisprudence, and medical ethics, indicating culpable negligence on the part of the board. In other respects it may be allowed to pass without question.

This board conducts its examinations in strict accordance with the plan prescribed in the Book of the Rules, and with the applicant under strict surveillance.

There are no illegal practitioners in the county, and there have been no prosecutions for violation of the law to regulate practice.

The Shelby county board reports the examination for the practice of medicine of -

Joseph Johnson, M. D., Miami Medical College, 1883. Certificate granted.

Edward P. Lacy, M. D., Vanderbilt University, 1883. Certificate granted.

These cases were improperly included in last year's report—which please see.

This board conducts its examinations in strict accordance with the plan prescribed in the Book of the Rules, and with the applicant under strict surveillance.

This board reports that no examinations were made in that county in 1883 for the study of medicine. Two medical students, namely, a Mr. Williams and a Mr. Weldon, went from the county to attend medical lectures without any preliminary examination, but neither of them studied under a preceptor.

There was one prosecution in this county, commencing in 1882. The case was that of Mr. Henry Clay McAdams, a first course student. While the case was pending in the circuit court McAdams attended a second course of lectures and passed a successful examination before the examining board of Mobile county. He subsequently returned to Shelby. The case was dismissed at his cost.

The St. Clair county board reports the examination, in 1883, for the practice of medicine of—

G. W. Thompson, M. D., University of Tennessee, 1883. Certificate refused.

J. W. Sandell, M. D., Georgia Eclectic Medical College, 1879. Certificate refused.

Benjamin L. Clayton, M. D., Vanderbilt University, 1883. Certificate granted.

Drs. G. W. Thompson and J. W. Sandell having been refused certificates by the board of examiners, after examination, proceeded to practice in violation of law. They were prosecuted, pleaded guilty, paid nominal fines and costs—amounting in the one case to $18.75, and in the other to $25.00. They still continued their illegal practice and were again indicted, when Sandell left the county.

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The Sumter county board reports the examination for the practice of medicine of –

N. F. Randall, M. D., University of Nashville, 1875. Certificate granted.

R. C. Gillespie, M. D., Louisville Medical College, 1883. Certificate granted.

Both of these examinations are so defective in scope, and the few questions given are answered with such extreme brevity, that they are of almost no value at all as indications of the qualifications of the gentlemen examined. Hence they do not serve the purpose for which written examination papers are required to be sent up to the Association. We therefore recommend that we be authorized to notify the Board of Medical Examiners of Sumter county that this Association regards with grave disapproval the extremely imperfect way in which these examinations were made.

There are no illegal practitioners in Sumter county, and there have been no prosecutions for violation of the law to regulate practice.

The Tallapoosa county board reports that there was no examination for the practice of medicine in that county in 1883, and none for the study of medicine.

The Tuskaloosa county board reports the examination for the practice of medicine of –

F. H. Sims, M. D., Southern Medical College, Atlanta, 1883. Certificate granted.

This examination on the part of the board is defective by the omission of medical jurisprudence, public and private hygiene, and medical ethics. For the rest the questions are well chosen to test the qualifications of the applicant, and the examination would deserve special commendation but for the fact to be presently mentioned.

This board further reports that no examinations were made for the study of medicine.

This board conducts its examinations on the plan prescribed in the Book of the Rules, except that they have done the applicant the injustice of not placing him under rigid surveillance.

There have been two prosecutions in this county for violation of the law to regulate the practice of medicine, as follows:

L. T. Hocut, M. D., Atlanta Medical College, 1882, was examined by the board and rejected. He, nevertheless, engaged in practice; was reported to the grand jury by one of his neighbors; was indicted, pleaded guilty and was fined one cent and the costs, amounting to twenty-five ($25) dollars. He subsequently left the county.

W. G. Simmonds was indicted, failed to appear before the court and left the county.

The Walker county board reports the examination for the practice of medicine of—

A. B. Philips, M. D., Vanderbilt University, 1883. Certificate granted.

There has been no examination, in 1883, for the study of medicine in this county.

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There is one illegal practitioner, Mr. Mullens, a non-graduate Mississippi licentiate. He promised to go before the State board and prosecution was suspended.

In 1882 this board made two examinations for the practice of medicine, although the contrary is stated in our report for last year, namely:

N. B. Haney, M. D., Vanderbilt University, 1882;

W. L. Gravlee, M. D., Vanderbilt University, 1882.

The papers in these two cases have never been sent to the State Board of Censors, and we have good reason to believe that these examinations were made in very lax fashion.

The Wilcox county board reports that no examinations for the practice of medicine were made in that county in 1883, and none for the study of medicine.

In conducting its examinations heretofore this board has not been in the habit of placing applicants under rigid surveillance, and in this particular have fallen below the plan prescribed in the Book of the Rules.

There are no illegal practitioners in this county, and there have been no prosecutions for violation of the law to regulate practice.

PART III.—THE REPORT OF THE COMMITTEE OF PUBLIC HEALTH.

THE WORK OF THE STATE BOARD OF HEALTH.

During the past year the Committee of Public Health have had no occasion to meet in special session. A brief sketch of the work done by our order and under our authority here follows:

YELLOW FEVER.

(1) The first outbreak of yellow fever on the Gulf coast in 1883 commenced at Fort Bayou, seven miles above the town of Ocean Springs on the Mobile and New Orleans Railroad, in the State of Mississippi. The first case sickened on the 30th of July, and the last case died on the 16th of November. There were reported in all six cases with five deaths. A full history of this case is given in connection with the report of the State Health Officer.

(2) Yellow fever next made its appearance at the naval

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reservation near Pensacola, Florida, where its presence was announced on the 16th of August. This outbreak reached the extent of two hundred and sixty-one cases and thirty-four deaths. A cordon of guards was stretched around the reservation, and there is no reason to believe that any other community was infected from this focus. Further details of this epidemic will be found in the report of the State Health Officer.

(3) The next place to be invaded was Pensacola, two cases occurring in that city on Palafox wharf on the 22nd of August. Subsequently other cases occurred in different parts of the city. It did not swell into an epidemic at any time, doubtless for lack of material, and the number of cases and deaths is not known with any certainty. The people of Pensacola, the newspaper press and the board of health, all passionately denied that yellow fever was prevalent in the city, and such a reign of terror was established that a doctor hardly dared whisper yellow fever even in the privacy of his own house. Out of this state of affairs it resulted that the Florida communities in the vicinity of Pensacola failed to invoke the aid of quarantine for their protection, and several of them suffered in consequence from more or less serious outbreaks of yellow fever. Amongst these may be mentioned Millview, Myrtle Grove, Oakfield, Hendrick's, and Brosenham's. Fuller particulars of all these outbreaks will be found in the report of the State Health officer.

(4) From Pensacola also the fever made its way into Escambia county, Alabama, where cases occurred in country neighborhoods near Pollard, and where there was an epidemic outbreak at Brewton, resulting in about seventy cases and twenty-eight deaths.

SMALL-POX.

During the year 1883 small-pox made its appearance in various sections of the State as follows: In Chambers county; in Calhoun county; in St. Clair county; in Jeffer-

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son county; in Mobile county; in Greene county; in Etowah county; and in Montgomery county. In all of these, thanks to the energetic action of the county and municipal boards of health, the spread of the disease was promptly checked. The details of these several outbreaks will be found in the reports of the State Health Officer.

A SPECIAL RECOMMENDATION.

In the law to provide for the supervision of the public health and for the collection of vital statistics in the several counties of the State of Alabama, there are three clauses to which it is necessary to call the special attention of the several county boards of health:

(1) The clauses which prescribe that all cases of births and deaths and pestilential diseases, shall be reported within such limit of time after occurrence as may be from time to time prescribed by the county board of health.

(2) The clauses which prescribe that, in addition to the details which the law itself requires to be given in these reports of births and deaths and pestilential or infectious diseases, they shall also include such other details as may be from time to time prescribed by the county board of health.

(3) The clauses which prescribe that persons laboring under any pestilential or infectious disease, shall not come or be brought into the county, or moved from place to place within the county, except under such regulations as the county board of health may from time to time prescribe; and the similar clauses in relation to human bodies which have died from pestilential or infectious diseases.

While the important duties thus imposed on the county boards of health have been formally provided for by some of them, they have been forgotten or neglected by others. As it is important that none of these duties should be longer neglected, and as uniformity of action in regard to them is for many reasons desirable, we suggest that it is desirable that all the county boards of health should, as speedily as

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may be convenient, adopt some such ordinance as that of which the draft here follows:

AN ORDINANCE IN RELATION TO THE PUBLIC HEALTH AND THE COLLECTION OF VITAL STATISTICS.

Be it ordained by the Blank County Medical Society, (1) That the Board of Censors, acting as a Committee of Public Health, shall from time to time, whenever any vacancy may exist in such office, elect a health officer for the county and fix his term of office; and that said health officer shall be under the immediate direction and control of said Committee of Public Health.

(2) That all doctors, midwives, heads of families, and other persons whose lawful duty it is to report births and deaths to the county health officer shall make said reports promptly upon the occurrence of said births and deaths; and at the longest all births and deaths occurring in any calendar month must be reported to said county health officer by the tenth day of the calendar month next following; *Provided*, That any report made to any Assistant Health Officer shall be considered as made to the health officer of the county.

(3). That all physicians, heads of families, and other persons whose lawful duty it is to report cases of pestilential or infectious diseases to the county health officer, shall make said reports promptly on the occurrence and recognition of said pestilential or infectious cases of disease; and at the longest all such cases of pestilential or infectious diseases must be reported to said county health officer within twenty-four hours after its occurrence and recognition, due consideration being had for distances and other providential hindrances; *Provided*, That any report made to any assistant health officer shall be considered as made to the county health officer.

(4) That the report of a birth shall include the following details, namely: Date of birth; sex of child; part presenting—head, breach, cross; place of birth; mother's name in full; mother's place of birth; mother's color—white, black, mulatto; father's name in full; father's place of birth; father's occupation; father's color—white, black, mulatto; name of informant.

(5) That the report of a death shall include the following details, namely: Date of death; name in full; place of birth; age in years, months and days; sex, color, occupation; married, single, or widowed; if an infant, name of father and name of mother; place of death; cause of death; place of burial; name of informant.

(6) That the report of a case of pestilential or infectious disease shall include the following details, namely: The name of the disease with date of occurrence, and origin, where this is known; the name, age, color, sex, and social condition of the patient; the place in which the patient is to be found; the names of such other persons as may be exposed to danger of infection; name of informant.

(7) That the Committee of Public Health shall make to this Society from time to time, in annual and special reports, full and prompt state-

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ments of all their proceedings under this ordinance and under the constitution of this Society, to the end that said proceedings may be duly considered and discussed and submitted to the approval or disapproval of this Society; and this especially in regard to such proceedings as may give rise to legal questions—such as the election of health officer and the recommendation of quarantine.

PENDING BILLS.

It is known to members that three bills intended to subserve the sanitary interests of the State were presented to the last session of the General Assembly under instructions issued by the Association acting as the State Board of Health. The circumstances under which these several bills failed to become laws were given in detail in our last report. These bills are indicated by the following titles:

(1) A bill to define some of the duties of the State Board of health.

(2) A bill for the regulation of quarantine in Alabama.

(3) A bill for the protection of the travelling public against accidents resulting from color-blindness and defective vision.

Inasmuch as there will be another session of the General Assembly before the Association will again convene in annual session it becomes necessary to determine whether or not these bills shall be again presented for the consideration of the law-makers of the State. They are all so evidently in harmony with the sanitary interests of the people that it seems to us we have but one proper course to pursue; namely, to press them again and again upon the attention of the General Assembly until they are enacted into laws, and this especially in regard to the first two mentioned.

We therefore recommend that we be authorized to bring these bills again to the attention of the General Assembly as occasion offers until they are all passed into laws. And while it is our settled policy that neither the State Association nor any of its constituent county societies shall ever take any part in political movements of any sort, we further

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recommend, that our members and the members of the county societies shall, after the next State election, use their best endeavors to secure for these several bills the favorable consideration of the members of the General Assembly representing in the two houses their several counties and districts.

SANITARY CONVENTIONS.

In the State of Michigan it has been the custom for several years past to hold sanitary conventions under the auspicies of the State Board of Health. These conventions meet sometimes in one place and sometimes in another; there is no scheme of regular membership; and all persons interested in questions of public health are invited to attend—doctors, lawyers, preachers, engineers—in short, men of all professions and trades, and even women.

The effect of these conventions is to excite public interest in sanitary questions and to diffuse amongst the people some knowledge of public and private hygiene.

Whether or not conventions of this sort can be made to succeed in Alabama we are not able to say. If they can be made to succeed their beneficent influence would be very great. We think at the least it is worth while to make the effort, and therefore recommend that we be authorized to do so under the sanction and encouragement of the State Board of Health.

THE REGISTRATION OF INFECTIOUS DISEASES.

A very important duty devolving on our boards of health under the law is the supervision of infectious diseases, with a view in the first place to having the cases that from time to time occur promptly and accurately reported, and in the second place, of taking such steps as may be necessary to check their dissemination amongst the people. To this end we submit the following form of certificate, and ask for it the approval of the Association:

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CERTIFICATE OF A CASE OF INFECTIOUS DISEASE.

Infectious disease.
Date of occurrence.
Name of patient.
Age, color, sex.
Social condition.
Location.
Persons exposed.
Informant.

OFFICE AND LIBRARY.

At our last session the State Health Officer was instructed to obtain in the city of Montgomery rooms suitable for an office for the State Board of Health, and to furnish the same, rooms in the capitol building to be preferred if obtainable, otherwise rooms to be rented at the expense of the board. Quite a commodious room was, after a little delay, secured in the third story of the State House, which was repaired at an expense of fifteen dollars; and furnished at an expense of thirty dollars.

It was further ordered at the last session that all books belonging to the State Board of Health, and received in exchange for the transactions of the Association, should be deposited in the State Health Office, with a view to their better preservation. The reports of our Secretary show that his predecessor turned over to him four hundred volumes, and that he, himself, had received one hundred and fifty volumes. Of these we are sorry to say that a considerable portion have been lost, or at any rate, have not been transferred to the State Health Office. Of the four hundred volumes first mentioned, as there is no catalogue, the number and character of the missing volumes can not be stated; but of the other hundred and fifty, fifty volumes are missing. None of the exchanges received during the last twelve months have so far been turned over by the Secretary.

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We desire to say to the Association that with a little care and attention to details in securing exchanges, and in taking care of them, this collection can in a few years be made one of considerable magnitude and considerable value. It could be increased at the rate of some hundred volumes a year.

THE BOOK OF THE RULES.

At the last session of the Association it was ordered that a new edition of the Book of the Rules should be printed at the expense of the State Board of Health. This has accordingly been done. The number of copies printed was 500, and the cost $367.20. The volume has been very handsomely gotten up, and is a great improvement on previous editions.

THE STATE HEALTH OFFICER.

The term of office of Dr. Jerome Cochran as State Health Officer having expired, it became our duty at this session to hold an election to fill the vacancy thus caused, the result of which was the unanimous reëlection of Dr. Jerome Cochran as his own successor for the ensuing term of five years.

PART IV.--THE REPORTS OF THE STATE HEALTH OFFICER.

(1) THE OUTBREAK OF YELLOW FEVER AT BREWTON IN 1883.

Brewton is the county site of Escambia county, Alabama. It is on both sides of the Mobile and Montgomery Railway, and is distant from Mobile seventy-four miles,—from Montgomery one hundred and six miles,—from Pensacola Junction fourteen miles,—from Pensacola sixty-six miles,—from Oakfield sixty miles,—from Molino forty-three miles,—from Watson's sixty-five miles,—from Millview sixty-five miles.

The larger portion of the population is included between two creeks—Murder creek and Burnt Corn creek—a short distance above their junction and a few miles above the point where they empty into the Escambia river; while a smaller part of the population that is claimed for the place have their residences across the creeks,—say five hundred between the creeks and three hundred beyond them, making about eight hundred in all.

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For many miles in every direction the country is one great expanse of sandy land covered by pine forests, except that along the creeks the pines are intermixed with other trees and shrubs. The creeks run between sandy shores and over sandy bottoms; and while the creeks sometimes overflow their banks there is not much swamp properly so-called. The soil being poor, very little of it is under cultivation. There are several saw mills in the adjoining country, and the principle business of the people is the cutting of timber and the preparation of lumber for the market.

The fever was confined to that part of the town between the creeks, no cases occurring beyond the creeks except a few who contracted the infection in the infected quarter of the town and then moved out. During the earlier weeks of the epidemic, through misapprehension of its true nature, only a few of the more prudent or more timid citizens thought it advisable to leave their homes. But a little later in the season, after the whole population, except the local doctors, became at last convinced that it was yellow fever they had to deal with, so many of them left that there remained by actual count between the creeks less than one hundred souls, including the sick, the convalescent and well. To this general exodus is to be ascribed the limitation of the epidemic to about seventy cases, with about twenty-eight deaths. The refugees made no attempt to get away by railroad, but simply moved a few miles into the country.

Already before the end of October it was evident that the epidemic was approaching its end. The fire was dying out for want of fuel. On the night between the second and third of November came the frost—the welcome frost. The summer had been unprecedentedly dry, and so there was but little moisture in the air, and the frost was not able generally to make a fine display. But wherever there was moisture there was the frost to be seen, and in many places ice as thick as a knife-blade was found. Taking everything into consideration I felt safe in sending out a dispatch in the following words: "Nov. 3rd.—Frost and ice in abundance. No more danger from Brewton. Refugees may return safely, provided they have their houses thoroughly disinfected and ventilated." So far as my opinions were put to the test they proved to be correct. Only two more cases of fever occurred, namely, Father Johannot on the 3rd, and Mrs. Arends on the 6th, and these dates show clearly that in these cases the infection had been contracted before the coming of the frost. Refugees were in no hurry to return. They ventured into town in the day time, looked after pressing matters of business, made arrangements for the disinfection of their houses, etc.; but continued to live outside of the lines which marked the extension of the epidemic. On the 14th—I have lost the memorandum of the date, but I think it was the 14th—there was a second frost, and after this the quarantines were all removed, and the refugees flocked back home.

HOW DID THE FEVER GET TO BREWTON?

The introduction of the fever into Brewton has never been distinctly traced. In general terms no reasonable man can doubt that it came either

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directly or indirectly from Pensacola. There was yellow fever in Pensacola certainly as early as the 22d of August, and perhaps at a much earlier date. From the infected focus on Palafox wharf it had been carried to Millview, and Myrtle Grove, and to Watson's, and to many other places nearer to Brewton than Pensacola itself; and all this before the occurrence of any case in Brewton. Indeed, if, as I firmly believe, the Barron cases of black vomit fever were genuine cases of yellow fever contracted at Hendrix's, near Oakfield, the disease had been brought into private families in Escambia county, and within a few miles of Brewton, before Brewton itself was invaded.

There were places enough for it to be brought from, and a hundred avenues were open for its passage. It did not originate in Brewton. It must, therefore, have been brought in. And, as I have said, the conclusion is well nigh irresistible that it was brought from Pensacola either directly or indirectly.

The two following facts I give for what they may be worth, not myself believing them to be worth much:

(1) On the 22nd of August Mr. Stokes was in Pensacola and was with the crowd on Palafox wharf when Jasper Rand's shanty was burned. He remained well during the epidemic.

(2) Ten residents of Pensacola who fled from that place along with many others in the panic of the 22nd of August, stopped in Brewton, namely: Mr. John W. Frater, wife, and three children; H. Baars, Mr. Dunwoody and two sons; Mr. W. W. Downing.

Before many days, and some time before the 12th of September, these parties all returned to Pensacola. None of them were sick during their stay at Brewton. They were not taken into private families in Brewton, but occupied one or two vacant stores—especially Duggan's store. Here they were visited by Dr. Rankin and others. Mr. Baar's office was on Palafox wharf, and some of the others were his clerks. It is of course possible that the infection might have been brought in the baggage of these men; and the dates coincide very well with this presumption.

The first case is commonly believed to have been that of Dr. Henry Rankin, who got sick on the 12th of September and died with black vomit on the 18th. It is well established that he had not been, within any limit of time before his sickness that would warrant the belief that he had contracted the infection in either place, either to Pensacola or to the Navy Yard.

There was another case of sickness in Brewton that deserves to be mentioned. A Mr. Hinote, who, in conjunction with Mr. Stokes, keep a livery stable, was sick only a short time prior to Rankin's attack. He had been in Florida a little before his sickness, and so, by possibility, may have been exposed somewhere to infection. He, himself, believed that his fever was of the same nature as that which subsequently prevailed in the town. The Doctor who treated him did not think so, and so his name does not appear on my list of cases.

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A PROBLEM IN DIAGNOSIS.

I reached Brewton about noon on the third day of October. I immediately apprized the local physicians of my coming, took a hurried dinner, and began my investigation by one o'clock.

The physicians of the place were two; Dr. H. H. Malone, and Dr. R. W. Farish. To these must be added Dr. J. T. B. Foard, the health officer of the county, whose place of residence was Pollard, some twelve miles distant, but who at this time came every morning to Brewton and returned to his home at night. After a few days he ceased going to Pollard, and remained permanently in Brewton until the end of the epidemic. All of these gentlemen are regularly educated and intelligent practitioners of medicine, and have been engaged in practice in Brewton and the contiguous country for more than twenty years, since before the war, and were therefore well acquainted with the diseases of the locality. They gave me a cordial reception, and showed me all the cases they had under treatment. Of these only two were of any assistance towards making a diagnosis, namely: Mrs. Taylor Ghent, and her eighteen months old daughter, Nellie.

Mrs. Ghent was taken sick on the 28th of September, so that I saw her first on the sixth day of her illness. Her skin indicated fever, but as I had no thermometer, I could only guess at the temperature, which I judged to be between 103 and 104. The pulse rate was 100 to the minute, of fair volume and compressible. The skin was flushed, and the eyes suffused and brilliant, but there was very little discoloration of either eyes or skin. The urine was stated to be of normal quantity and appearance. I tested a little of it in an old tin sardine box and found it heavily charged with albumin. This observation was made on the 3rd. On the 4th I had obtained a thermometer, and at noon her temperature was 103, pulse 100, and general symptoms unchanged. This case was a very protracted one, but ultimately recovered.

The child, little Nellie, was moribund when I saw her, and died within a few minutes—in less than ten minutes I should think. The eyes and skin were decidedly, but not intensely yellow, and a little retching brought up a few teaspoonfuls of black glairy vomit resembling coffee grounds, or prune juice. I saw also other evidences of black vomit on the handkerchiefs and towels that had been used about her. After death the discoloration became profound.

Besides these two cases I saw Mrs. Rabb, and her two children, Willie and Robert, Mrs. Riley and Miss Nora Riley, and perhaps one or two others. But these cases gave no indication of yellow fever so far as I was able to judge. Indeed, having no thermometer to measure the temperature, I was not able to discover that they had any fever at all, while the skin and eyes were free from discoloration, and all the symptoms were of a negative character. The adults had all sickened on the 28th of September, and the two children on the first of October. The adults, therefore, must have had mild attacks and had passed the critical period, and the children were in the period of calm. That the children had yellow fever is beyond question,

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because subsequently both of them had black vomit. But even during the black vomit stage they had little or no fever, and seemed to suffer very little inconvenience of any sort. They presented no sign of discoloration, and made prompt recoveries. It was on the ninth day of October, and the ninth day also after the attack that the black vomit was ejected.

Two other cases I also saw, namely: Mr. E F. Brewton, taken sick on the 3rd of October, the day of my arrival, and Mrs. Martha Brewton, taken on the 4th. These were both severe cases, and subsequently died with black vomit; but they were not sufficiently developed to be of much use for the purpose of making an immediate diagnosis.

CASES THAT HAD PREVIOUSLY OCCURRED.

The previous cases of sickness described to me by the local physicians were as follows:

(1) Mr. James Snowdon, who had been at work driving piles on a railroad in a very malarious part of Mississippi, where he had chills. He came home to Brewton towards the last of August, and was taken sick about the 30th or 31st of August. For half a day he vomited almost pure blood and passed the same copiously from his bowels. His case was regarded by his physician as one of hemorrhagic malarial fever without hæmaturia. He recovered from this attack. The vomit in this case seems to have been unaltered blood; and I gave it as my opinion that this was not a case of yellow fever; an opinion which seems to have been subsequently verified when this same man died on the 18th of October with genuine black vomit.

(2) Dr. Henry L. Rankin, dentist, was taken sick on the 9th of September and died on the 18th. He had jaundice before his sickness came on. He threw up black vomit, sometimes almost pure blood, for two or three days before he died. Was very yellow before he was buried. He is believed not to have been away from Brewton for three months before his death. He boarded at Mrs. Downing's, and was waited on by the family during his sickness.

(3) Miss Fanny Downing was taken sick, also in the Downing house, on the 23rd of September and died with black vomit on the 29th.

(4) Mrs. Taylor Ghent, sister of the preceding, was taken sick on the same day, the 23rd, and in the same house. She did not have black vomit and recovered.

(5) Mrs. J. R. Downing, mother of Miss Fanny Downing and Mrs. Taylor Ghent, was taken sick on the 24th of September. She was semicomatose from the beginning, threw up black vomit, and died on the 29th.

The symptoms of these cases as reported to me by Drs. Malone and Farish, were as follows: First a fever of continuous type lasting three or four days; then a remission or intermission for a day or so, with no fevers or very little; then another fever lasting a day or two, with black vomit and death. The bowels were inclined to be costive, and did not respond well to purgatives; the urine normal in amount and appearance; range of temperature not very high; pulse during the febrile stage from 100 to 120 per minute; and from the 5th to the 8th day the skin and eyes became

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yellow. Quinine given in large and repeated doses failed to control the fever.

It is necessary to add that this description was given from memory. No clinical records had been kept. The thermometer had not been used to determine the temperature. The pulse had not been counted by the watch. The urine had not been tested for albumen.

On the afternoon of the 4th of October, that is to say, at the end of twenty-four hours after my arrival, a consultation of physicians was held to discuss the character of the fever. There were present Dr. Foard, Dr. Malone, Dr. Farish, and myself. Dr. Wilkinson, of Pensacola Junction, had been invited to attend the conference, but did not reach Brewton until nightfall. His testimony, however, will be given in connection with that of the local physicians. I opened the consultation by saying in substance:

"This consultation is a very important one. I have seen too little to base any confident opinion on my own observations, but what little I have seen is strongly suggestive of yellow fever—particularly the case of Nellie Ghent. The clinical history of the fatal disease as it has been related to me, although incomplete at many points, is, as far as it goes, almost a typical picture of yellow fever, and I know of no other disease which presents a similar concourse of symptoms. I have had no personal experience with hemorrhagic malarial fever, but as it has been described in medical works, it seems to me to be very different from the disease now prevailing in Brewton, I am obliged to believe, therefore, that the fever we have to deal with is yellow fever."

The argument of the local physicians against this conclusion were about as follows, Dr. Foard being the principal speaker: (1) It cannot be yellow fever because it cannot be traced to any outside source of infection, and must have originated here. (2) It cannot be yellow fever, because there have been a considerable number of cases of the same sort scattered through the piney woods at isolated farm houses, where infection is utterly out of the question. Dr. Foard had seen seven of these cases in the neighborhood of Pollard, of which number four had black vomit, and one died. In three there was albuminous urine. Dr. Malone had seen two or three similar cases in the neighborhood of Brewton. Dr. Wilkinson expressed no opinion as to the character of the fever in Brewton, not having seen the cases, but he had treated a number of cases of a very severe type of fever in Escambia and Santa Rosa counties in Florida. Some of these had albuminous urine and black vomit. He had never seen yellow fever, unless these cases were yellow fever, and supposed he had been dealing with a pernicious form of malarial fever. (3) The two foregoing arguments are negative. The next is direct and positive. These gentlemen did not pretend to know much about yellow fever, but they did know something about malarial fever, having treated it in all its protean forms, and they recognized the fever in Brewton as pernicious, or hemorrhagic malarial fever, which was not at all a stranger to them. Dr. Foard had seen a few such cases almost every year in his practice. Dr. Malone had seen entirely similar cases in previous years when there was no possibility of yellow

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fever. Dr. Farish had treated cases of the same character when he practiced in Monroe county.

Not only were the physicians of Brewton at the time of this consultation earnestly of the opinion that the prevailing fever was malarial fever and not yellow fever, but they held firmly to this opinion throughout the whole course of the epidemic to its termination, and, so far as I am advised, have never since altered their minds in regard to it. This is evident from their communications to the newspapers of Mobile and Montgomery, several of which are here subjoined. Several of these communications were signed by all three of them. Others were signed by Dr. Foard alone, but were understood to receive the tacit endorsement of the other two.

TESTIMONY OF THE PHYSICIANS OF BREWTON.

October 7th.—Two mild cases of malarial fever developed in Brewton to-day. We are hopeful and confident of the correctness of our diagnosis.

October 8th. In your issue (Montgomery *Advertiser*) of the 6th you publish to the world, without explanation or reservation, that four deaths have occurred in Brewton from black vomit. The reader naturally infers that the black vomit of yellow fever is meant. Equity and mutual interest constrain me to state, as a fact, that the light brown filamentous matter ejected by some of the sick, is very dissimilar to the black vomit of yellow fever. I deliberately reiterate and emphasize my former declaration that there has not been, and is not now, any yellow fever in Brewton, or any other place in our county. We expect fair treatment at your hands.

October 9th. There have been two deaths from malarial fever since the 3rd instant. Thirteen cases are under treatment. We hope Mobile will stand by us in our distress.

October 10th. We are in distress; our people are exhausted; we need help. Please send us four female and two male nurses to-morrow. Do not fail us.

October 10th.—Four new cases of malarial fever to-day. Twelve cases are under treatment, two of which are in a critical condition.

October 11th.—Our own brave men and women are exhausted by constant vigils at the bedside of the sick. We need nurses. The solemn quiet of the stricken village is only disturbed by the minister, the nurse and the physician on their rounds of duty. Many houses are draped with the emblems of woe. The official business of the county is entirely suspended, the stores are closed, and the streets are deserted.

Rev. R. P. Baker never wearies in his efforts to assuage the sufferings of the sick or soften the pangs of the dying. He has won great distinction as a nurse and spiritual comforter. Long may he wear it. Messrs. Farish and Malone have been on day and night duty for the past three weeks; they are heroes in the cause of humanity; they are an honor to the profession to which they belong. We do not expect any cessation of the scourge as long as the drought prevails. Two deaths last night from malarial fever. Three new cases to-day. One very dangerous case.

October 12th.—Apologies are rarely sincere, and never remedy the wrong done. Hence the health authorities of Escambia county seek none at the hands of the Montgomery board of health. The information received by the board to the effect that the first case and victim—at Brewton—had visited Pensacola some few days previous to his illness, is a lie cut from the whole cloth. Only two other persons in the same house, Rankin—case and victim referred to—died, subsequently sickened and died. The intimation by the Montgomery board of health that the physicians here persist in the correctness of their diagnosis for the purpose of bolstering first opinions,

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does them no credit, and merits no consideration at the hands of the "physicians of Brewton and the surrounding country." The "board" is entitled to its opinions, and the "physicians of Brewton and surrounding country," are entitled to theirs. For the comity of feeling expressed by the Montgomery board of health, the "physicians of Brewton and surrounding country" are profoundly grateful; but dare not stultify themselves for its gratification. With proper deference we dissent from the conclusions of the "board" as to the type of fever prevailing here. No one has tried to induce the Montgomery board of health to believe that it was nothing but "simple, innocent malarial fever." We said it was malarial fever, and we say so still. May be the "board" would like it better if we were to say congestive, malignant, or pernicious malarial fever. In consequence of the unfair and erroneous reports which have been published about our sick dying from black vomit, and so many cases of black vomit on hand, we have not had for the past four days sufficient help to bury our dead. There have been no deaths from black vomit here. The matter ejected by some of the sick bears about the same relation to the black vomit of yellow fever as Sherry wine does to ink. Its constituents are pure bile, gastric mucus, sometimes a little coagulated blood, and charcoal water, which the sick drink to allay nausea.

But to return from this digression. The result of the consultation was that I said to the local physicians engaged in it that I could reach no other conclusion than that the fever prevailing in Brewton was yellow fever, and that I should telegraph to boards of health in Alabama to that effect. At the same time I agreed that out of respect for the unanimous contrary opinion so confidently entertained by them, and in view of the fact that I had seen so little of the disease, I would admit that the diagnosis was doubtful. This I accordingly did, in my first official telegram.

On the second day after this consultation I paid a visit to Pensacola, the details of which are given in another part of this report. When I returned to Brewton several new cases had developed sufficiently to make further hesitation as to the character of the fever impossible to me. Beyond all peradventure of doubt it was yellow fever of a malignant type. Subsequently three yellow fever experts visited Brewton—namely, Dr. Scales of Mobile, Dr. Stone of Savannah, and Dr. Carson of New Orleans—and all of these, after due investigation, agreed that my diagnosis was correct. The people of Brewton also very soon reached the same conclusion. Only the doctors of the place, as I have already stated, remained permanently incredulous.

I have gone into all these details to illustrate the embarrassment of my position. Away from Brewton an anxious public could not understand how a man who had seen as much yellow fever as I had should have hesitated at all; while in Brewton itself the doctors and the people were for many days indignant that I had expressed an opinion which they believed to be so unjust and so mischievous.

In the meantime my embarrassment grew largely out of the fact that at that time I was not sufficiently familiar with the clinical history of hemorrhagic malarial fever to show how in its daily evolution the attendant symptoms differ from those of the great American pestilence—black vomit and icteroid discoloration being admittedly common to both of them; and

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I did not know then, nor do I know now, of any comparative schedule of the symptoms of the two maladies, based upon clinical, in contradistinction to patholological studies, which would enable any one to discriminate at the bedside, clearly and certainly, the one from the other. Certainly no such bedside guide is to be found in the elaborate discussions of the two fevers which Prof. Joseph Jones arranges side by side in the report of the Louisiana State Board of Health for 1883. I made up my mind, therefore, while battling with the epidemic in fever stricken Brewton, that I would make as critical a study as I could of hemorrhagic malarial fever with a view to the preparation for the future use of health officials such a diagnostic guide as I had felt the need of. In this, I am glad to say I have succeeded completely; and I am now able to assert that the discrimination of yellow fever from hemorrhagic malarial fever is as certain and as easy as that between any two fevers whatever—so certain and so easy that mistakes become practically impossible. This diagnostic schedule will be given in an appendix to this report.

BLACK VOMIT CASES IN THE PINE WOODS.

I have made diligent effort to get definite accounts of the various cases of black vomit fever reported as having occurred in the pine woods in Escambia and Connecuh counties, Alabama; and in Escambia and Santa Rosa counties, Florida. In the mean time I have much reason for believing that Dr. Foard's cases were cases of genuine yellow fever, traceable to Pensacola. Dr. Feagan's cases in Conecuh county were not black vomit cases at all, but hematuric cases of ordinary hemorrhagic malarial type. See his own account of them in the article on Hemorrhagic Malarial Fever in this volume of Transactions.

Dr. Wilkinson has kindly complied with my request to write a sketch of his cases, which sketch here follows; and affords proof that some at least of his cases were genuine yellow fever:

First Case.—I was called about the last of August to attend Mrs. H. Watson, living in Baldwin county, Alabama, 15 to 18 miles North from Pensacola.

9 o'clock p. m., pulse 110, soft, easily compressed and slightly fluttering; sublingual temperature 103°; respiration 30, sighing; tongue, white centre, red tip and edges.

Her friends told me calomel and castor oil had each been given twice, but the actions were scanty, dark and offensive. She had suffered a great deal from pain in the back, head and limbs, but at time of my examination the only pain was intercostal neuralgia. Percussion evidenced a loaded colon; vomiting bile, pyrosis, and an oppressed feeling, referred to the stomach, had existed from the beginning of the disease. As soon as irritability of the stomach was allayed, gave 10 grains calomel and 20 grains quinine. Bowels acted freely at 1:30 a. m.; first dejection was formed feces, followed by a discharge of a tarry consistency and color. Within fifteen minutes after bowels had ceased moving, the patient, without giving any warning, ejected black vomit with such force as to strike the wall four or five feet from her head. The pulse and temperature had been slowly decreasing for three hours before the vomiting. Two or three minutes of rest was followed

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by a second vomiting, which was caught in vessel, and amounted to more than a pint. Was of the same character as the first.

Seven o'clock a. m., pulse 89; not more fluttering than the preceding evening and stronger. Sublingual temperature. 101.8°.

Ten a. m., temperature, 103°; pulse 110; patient growing comatose; respirations more sighing. Two p. m., coma increasing. No abnormal condition of the pupils discoverable: pulse 125; axillary temperature 104.8°. Death ensued at 5 p. m., accompanied with slight convulsions, on the fifth day of confinement to bed. Urine not examined, but was passed regularly. After death, black vomit issued from mouth and nostrils several times. Hardly any noticeable discoloration of the skin.

Subsequently Dr. Wilkinson made the following additions to the history of this case:

February 26th, 1884.—There is pretty good reason to believe that my first case, viz: Mrs. Watson, may have been exposed to the infection of yellow fever. Her husband has learned that a physician from Pensacola, who visited his house ten days previous to his wife's illness, was at the time attending a case which proved to be yellow fever. If you will concede that an attendant's clothing can, from a short attendance on a case, become so well infected as to convey the disease twenty-five miles, driving in a buggy, and communicate, during a short visit, the fever to a resident of the country without subsequent infection of unprotected nurses and friends, there is cause to believe I was in error in my judgment of the nature of the disease. I now believe I was in error.

Second Case.—September 13th, saw son of Washington Campbell, age 5½ years. The house is on a high, gravelly hill, but within one-third of a mile of Escambia river swamp, on west side, and near a creek-bottom, and dry mill pond on the other. Saw patient third day of illness. Pulse, 155, weak, sublingal temperature (4:30 p. m.), 105 6°; tongue, white, except tip bright red. The bed-clothing, from the vomiting of the patient, appeared as though a pint or more of coffee grounds had been spilled. The skin was quite yellow; mostly a bright yellow, but a few places were dark yellow; urine, albuminous; containing from 15 to 20 per cent. albumen.

Black vomit came on while examining the patient. He had been delirious more than half of the time from the inception of the disease, and had three or four convulsions prior to my visit.

I did not see him next day, but his father reported him improving. Visited him again on the 15th. Pulse, 100; temperature (2 p. m.), 101.6°; trace of albumen in urine. Had black vomit once, the night following first visit, but it was small in amount. Had daily report for three days subsequently, when convalescence was so well established I ceased to hear from him.

Third Case.—September 18th, was called to attend a boy 12 years old, son of Wm. Morgan, on the fourth day of his confinement to bed. Residence, Escambia county, Florida, six miles north-west from Molino. The patient had been helping to gather cattle from the woods and creek bottoms four or five days and had helped drive them to McDavid's butcher-pens, 1½ miles from Pensacola, Florida. Had remained at the pens but one or two hours. Patient had been delirious at times for a day and night before I saw him. Found him semi-comatose, but he could be aroused sufficiently to reply fairly to questions. Pupils normal; pulse 140, compressible and slightly irregular. Sublingual temperature, 7:30 p. m., 108.8°; respiration 33, fairly regular but occasionally sighing; quite restless. Would vomit every time anything was swallowed; had made frequent complaint of a feeling of weight in the stomach. Skin dry and colored deeper yellow than is usually seen in jaundice. Temperature, 7 a. m., on the 19th, 102°; pulse 115; sweating freely; vomiting allayed; nausea but slight. Introduced

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catheter 11 a. m., and drew about 20 ozs. urine, which contained albumen, roughly estimated to be about 20 per cent. Patient had not voided urine for 16 hours before catherterizing. At 12 o'clock noon, there was copious and forcible ejection of black vomit, which was repeated three times between that time and 10 p. m., when the patient died, in slight convulsions and with marked opisthotonos. The temperature was taken in the axilla four times during the last 10 hours of life. It steadily rose to 105.5°

Subsequently Dr. Wilkinson made the following additions to the history of this case:

October 30*th*.—I have not any positive information, but from a pretty reliable source I learn that I had one case of yellow fever in my practice, the son of Wm. Morgan, mention of which case you will find in the memorandum which I gave you. The same house, that of —— Hendrix, near Oakfield, was the starting point of 11 or 12 cases, six or seven of which proved fatal.

In the report of the Surgeon General of the Marine Hospital Service, on the Epidemic of Yellow Fever at Brewton, prepared by Drs. Stone and Carson, and privately printed by Dr. Stone, I find an extract from a letter of Dr. Wilkinson as follows:

"I had one case in my practice in September last which I decided to be yellow fever. It occurred in the open pine woods, five or six miles west of Molino, Florida. The patient had remained one night in a house one mile from Oakfield, Florida, the owner of which, and his wife, did their trading and sold produce in Pensacola once or twice a week, and it is even hinted that the man ran the blockade (cordon) with a load of vegetables to the Navy Yard. At the least, the house referred to was the focus of eleven (11) cases of a fever that was quite virulent, six (6) deaths having occurred among the eleven, (my patient among the fatal cases), and five reported to have had black vomit. But when I attempted to elicit facts the replies were wholly inconclusive. Dr. Hargis, of Pensacola, told me he saw one of the Oakfield cases once, but not sufficiently to diagnose the case. From the history of the fever obtained from a non-professional he is convinced it was yellow fever."

I have given you notes of three cases as fully as I can from memory. I have had two other cases with black vomit, both of which made recoveries, but cannot now recall their conditions sufficiently to give you any reliable notes of them. Altogether, I have had eleven (11) cases of fever which I have judged to be of the same type as those having black vomit. I have not detailed treatment, but state here, calomel at the outset was given in nearly every case followed, as needed, by Rochelle salts or seidlitz powders. For adults, an average of 40 grains of quinine was given daily, in two or three doses for about four days. Bismuth, cerium, manganese, lime water, and hot water were used to allay vomiting, with counter-irritants. In some cases I had to respect the stomach and give medicines and food by enema. Tincture aconite, tincture digitalis, nitrate potassa, acetate potassa, fluid extract ergot, and alcohol were the other remedies used in the several cases.

All of my patients referred to in this connection were south of this place; the nearest, (Campbell's son), seven miles south-east in Santa Rosa county, Florida. Three, Mr. and Mrs. Thomas Pillingin and Judson Bryars, were nine miles south of Whiting, three miles south of Bluff Springs. They live near the Escambia river swamp and in Canoe creek bottom. None of them had been exposed to the infection of yellow fever, unless you can count Morgan's son as so exposed; nor did any cases develope by the attendance of unprotected persons upon them.

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THE DIFFERENTIAL DIAGNOSIS BETWEEN YELLOW FEVER AND THE HEMORRHAGIC MALARIAL FEVER OF ALABAMA.

No attempt is here made to give complete and systematic clinical descriptions of the two fevers between which comparison is made. On the contrary I have intentionally confined myself to pointing out the salient distinctions between them in order simply to facilitate their discrimination at the bedside.

Yellow Fever.	*Hemorrhagic Malarial Fever.*
(1) Yellow fever shows no disposition to attack by preference persons who have been previously exposed to malarial influences, or who are victims of chronic chills.	(1) Hemorrhagic malarial fever almost always supervenes upon a chronic malarial cachexia, and never attacks persons who have not been specially exposed to malarial influences.
(2) The initial paroxysm of yellow fever is always of the continued type, and is usually of three day's duration. Following this comes the period of calm; and this may pass insensibly into the period of convalescence. Or the period of calm may be followed by a secondary fever of indefinite duration and of a *quasi* typhoid type.	(2) Hemorrhagic malarial fever begins usually as an intermittent; is, however, occasionally remittent, but is never at first continuous. It does not present in any part of its course anything analagous to the calm of yellow fever. In some cases it passes into a *quasi* continued type which may last for two or three weeks.
(3) In yellow fever black vomit is of common occurrence, and is, indeed, the characteristic symptom of the disease, although it does not occur in a majority of the cases. Hematuria, on the contrary, is practically unknown in yellow fever.	(3) In hemorrhagic malarial fever black vomit is of extremely rare occurrence; the characteristic symptoms of this disease being hematuria, which is so rarely absent that the cases in which it fails to appear may be disregarded.
(4) In yellow fever black vomit is usually preceded by what is known as white vomit, that is to say, the belching up of a sort of white mucus which soon becomes interspersed with black specks, the so-called beeswings, or spiders webs; and there is little nausea or none.	(4) In hemorrhagic malarial fever the black vomit, in the rare cases in which it is seen at all, is always preceded by copious bilious vomiting, of all shades of yellow, green, and even blue. And there is always most distressing nausea.
(5) In yellow fever the black vomit, in the immense majority of the cases, does not occur near the beginning of the attack, but is more common on the fourth or fifth day.	(5) In hemorrhagic malarial fever, in the few cases in which black vomit occurs at all, it occurs most usually on the first day and during the first febrile paroxysm, although it may sometimes be delayed until the second day.
(6) In yellow fever the black vomit is not accompanied by hemorrhagic urine.	(6) In hemorrhagic malarial fever the black vomit – where there is any – is always accompanied by hemorrhagic urine.
(7) In yellow fever the icteroid discoloration of the eyes and skin, does not commonly make its appearance until the fourth or fifth day, although to this rule there are exceptions.	(7) In hemorrhagic malarial fever the icteroid discoloration makes its appearance on the first day in the first paroxysm of the attack, and to this rule there are probably no exceptions.

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Yellow Fever.	*Hemorrhagic Malarial Fever.*
(8) In yellow fever the discoloration is progressive, grows deeper and deeper until the crisis is reached, and often shows itself only after death, so that a body which at the time of death was hardly discolored at all becomes intensely yellow a few hours *post mortem.*	(8) In hemorrhagic malarial fever the discoloration is not progressive, but often with the suppression of urine and the approach of death fades away and disappears, and this tendency continues even after death, so that a body which at the moment of death was quite yellow may be hardly at all discolored a few hours *post mortem.*
(9) In yellow fever *post mortem* examinations the liver is usually of a box wood color: there is a normal spleen, and no bile is to be found in the alimentary canal.	(9) In hemorrhagic malarial fever *post mortems* the liver is usually of a dark bronze or slate color, the spleen is congested and enlarged, and bile is always found in the alimentary canal.

So far, then, as specific yellow fever and hemorrhagic malarial fever are concerned, the diagonis is so easy that he who runs may read. Any case of fever with hematuria is a case of hemorrhagic malarial fever. Any case of fever with black vomit is, in Alabama, almost certainly yellow fever; and if it is not also characterized by hematuria it is yellow fever beyond doubt or question.

The real difficulties of diagnosis, however, occur in fevers in which there is neither black vomit nor hematuria.

LIST OF PERSONS SICK IN BREWTON DURING THE EPIDEMIC.

Dr. Henry Rankin, got sick September 12th; died September 18th.
Mrs. Kissie Ghent, sick Sept. 23rd: recovered.
Miss Fanny Downing, sick Sept. 23rd; died Sept. 29th.
Mrs. J. R. Downing, sick Sept. 24th; died Sept. 29th.
Mr. W. S. Jernigan, sick Sept. 27th: recovered.
Mrs. Wm. Rabb, sick Sept. 28th; recovered.
Mrs. E. R. Riley, sick Sept. 28th; recovered.
Miss Nora Riley, sick Sept. 28th; recovered.
Mrs. Jessie Ghent, sick Sept. 28th; recovered.
Nelly, age 18 months, infant of Mrs. Jessie Ghent, sick Sept. 29th; died Oct. 3rd.
Willie Rabb, child of Mrs. Wm. Rabb, sick Oct. 1st; recovered.
Robert Rabb, child of Mrs. Wm. Rabb, sick Oct. 1st; recovered.
Mrs. M. P. Colley, sick Oct. 1st; recovered.
Mrs. Kissie Ghent's infant child, sick Oct. 2nd; died Oct. 7th.
Mr. E. F. Brewton, sick Oct. 3rd; died Oct. 8th.
Mrs. Martha Brewton sick Oct. 4th; died Oct. 10th.
Mrs. Caroline Coleman, sick Oct. 6th; died Oct. 13th.
Mr. Gus Lewis, sick Oct. 6th; recovered.
Henry ———, (colored) sick Oct. 6th; died Oct. 13th.
Infant of Mrs. Coleman, sick Oct. 7th (at age of one day); died Oct. 15th.
Nanny Granberry, sick Oct. 6th; recovered.

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George Granberry, sick Oct. 6th ; recovered.
Mrs. Charles F. Rankin, sick Oct. 9th ; died Oct. 14th.
Mrs. Joseph Bell, sick Oct. 9th ; died Oct. 12th.
Mr. Charles Strong, sick Oct. 9th ; died Oct. 13th.
Mr. John Scott, sick Oct. 9th ; died Oct. 13th.
Miss T. Holly, sick Oct. 9th ; recovered.
Mrs. John Scott, sick Oct. 10th ; died Oct. 14th.
Dr. Duke Storts, sick Oct. 10th ; died Oct. 15th.
Mr. M. P. Colley, sick Oct. 10th ; died Oct. 25th.
Mrs. Dr. Farish, sick Oct. 10th ; recovered.
Mr. J. M. Granberry, sick Oct. 11th ; recovered.
Mrs. J. M. Granberry, sick Oct. 12th ; recovered.
Rev. R. P. Baker, sick Oct. 12th ; died Oct. 16th.
Mr. E. J. Brewton, sick Oct. 13th ; recovered.
Mr. W. M. Rabb, sick Oct. 13th ; recovered.
Miss Ida Coleman, sick Oct. 13th ; recovered.
Mr. John O'Bannon, sick Oct. 13th ; recovered.
Mr. George Frederick, sick Oct. 14th ; recovered.
Mr. Wareham Mudge, sick Oct. 15th ; recovered.
Mr. James M. Snowden, sick Oct. 15th ; died Oct. 18th.
Mrs. James Snowden, sick Oct. 16th ; recovered.
Mr. E. A. Grey, sick Oct. 16th ; died Oct. 19th.
William Travis (colored), sick Oct. 16th ; recovered.
Miss Coralie Rankin, sick Oct. 17th ; recovered.
Mrs. R. P. Baker, sick Oct. 17th ; recovered.
Mrs. J. B. Rankin, sick Oct. 18th ; died Oct. 22nd.
Robert Johnson (colored), sick Oct. 18th ; recovered.
Mr. Philip Arends, sick Oct. 19th ; died Oct. 23rd.
Mr. Henry Scott, sick Oct. 19th ; recovered.
Mr. Thomas P. Ghent, sick Oct. 20th ; died Oct. 24th.
Miss Lula Bundrum, sick Oct. 20th ; recovered.
Mr. John B. Loveless, sick Oct. 21st ; died Oct. 26th.
Miss Cassie Brewton, sick Oct. 23rd ; recovered.
Mr. James F. Duggan, sick Oct. 23rd ; died Oct. 26th.
Mr. John Bundrum, sick Oct. 23rd ; died Nov. 5th.
Miss Katy Rabb, sick October 23rd ; recovered.
Mrs. Eliza Croker, sick Oct. 24th ; recovered.
Miss Mazy Croker, sick Oct. 25th ; recovered.
Mr. R. B. Jernigan, sick Oct. 25th ; died Oct. 29th.
Child of Mr. Charles Snowden, sick Oct. 26th ; recovered.
Mr. E. T. Brewton, sick Oct. 27th ; recovered.
Mrs. Bundrum, sick Oct. 29th ; recovered.
Miss Dora Bundrum, sick Oct. 30th ; died Nov. 5th.
Miss Alice Mudge, sick Nov. 1st ; recovered.
Father Victor Jouannett, sick Nov. 3rd ; recovered.
Mrs. Arends, sick Nov. 6th ; recovered.
Willis Travis (colored), sick Nov. —— ; recovered.

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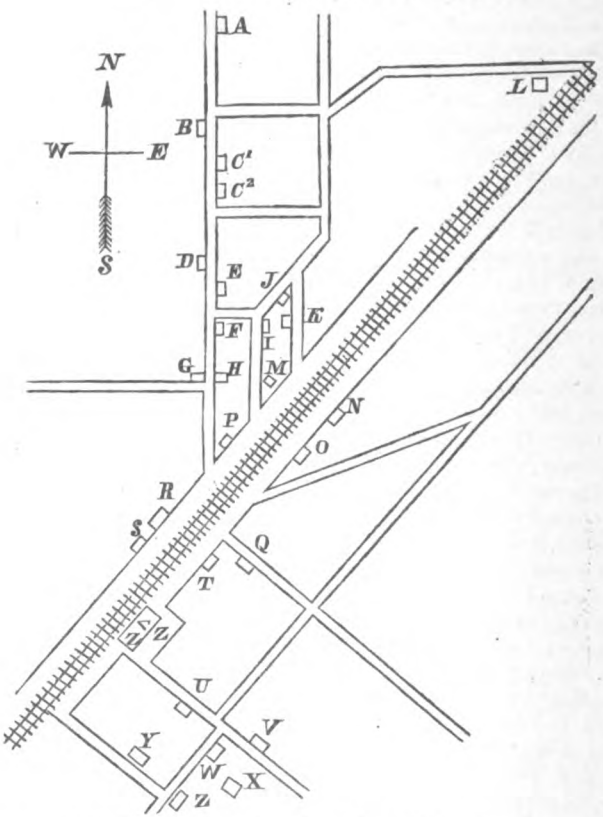
Todd Roberson (colored), sick Nov. ——; recovered.
Leslie McConnell, sick Nov. ——; recovered.

I have entered in this list the names of all who were reported to be sick of the prevailing fever, without stopping to criticise the diagnosis. In the meantime I am satisfied that several of the cases entered here were not truly cases of yellow fever. Admitting them all to have been yellow fever, however, the whole number of cases is 70; and the whole number of deaths, 28. This makes the percentage of mortality to cases, 40.

THE RELATIVE LOCATION OF THE CASES.



The foregoing diagram of the infected portion of the town, drawn by Mr. John Storts, Jr., shows the location of the more important cases, and will be easily understood by comparing the following references with the history of the epidemic. The distances are reckoned from the railroad station house:

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A.—Residence of E. F. Brewton, who died here. One mile.

B.—E. P. Loveless, where died Mrs. C. F. Rankin and J. B. Loveless. Three-fourths of a mile.

C 1.—C. D. Strong, one case and one death—self. Three-fourths of a mile.

C 2.—C. F. Rankin, where Mrs. Rankin got sick. Three-fourths of a mile.

D.—H. Frederick, two sons sick, no death. One-half of a mile.

E.—Dr. R. W. Farish, three cases, one death, Rev. R. P. Baker. One-fourth of a mile.

F.—M. P. Colley, three cases, two deaths, M. P. Colley and B. R. Jernigan. One-fourth of a mile.

G.—J. M. Granberry, five cases, no deaths. One-eighth of a mile.

H.—Mrs. D. P. Downing, focus of the epidemic, where the first case occurred, and where died Dr. Rankin, Mrs. Downing, and Miss Downing, and where many of the subsequent cases contracted the infection.

I.—John Bundrum, four cases, self, wife, and two daughters, of whom self and one daughter died. One-fourth of a mile.

J.—Wm. M. Rabb, self, wife, and two children sick, no deaths. One-quarter of a mile.

K.—Jane Brewton (colored), where her son William Travis was sick. One-quarter of a mile.

L.—Willis Travis (mulatto), one case, self, no death. One mile and a quarter.

M.—Sam Scott, where his wife and son contracted the infection. He moved over Burnt Corn, where the two cases died.

N.—Joe Bell, one fatal case, self. One-quarter of a mile.

O.—Mrs. Riley, four cases, of whom one, M. D. Storts, died. He was the subject of the *post mortem* examination. One-eighth of a mile.

P.—J. B. Rankin, two cases, wife and daughter. The wife died.

Q.—James M. Snowden, who died here.

R.—W. J. Coleman, two cases, wife and daughter. Mrs. Coleman was confined at the beginning of the attack. The new born infant was taken across the street to Mr. Arends, showed symptoms of the fever the next day and died with black vomit.

S.—Mrs. M. A. Guinn, moved from Rabb's sick. Not yellow fever.

T.—J. N. Arends, four cases and two deaths. P. J. Arends and Coleman's infant.

U.—E. A. Grey, who died here.

V.—E. T. Brewton, six cases with one death, Mrs. Brewton.

W.—Robert Johnson (colored), one case, recovered.

X.—Bella Dixon, one very doubtful case.

Y.—T. P. Ghent, four cases, self and infant died.

Z.—W. S. Mudge, two cases, both recovered.

ZZ.—Railroad station. About the centre of town.

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EXPOSURES AND ESCAPES.

The exposure can be easily traced in every case except the first, that of Dr. Henry Rankin, who boarded with Mrs. Downing, and was undoubtedly the source of infection for Mrs. Downing and her daughters. While this family was sick they were visited by all the Brewtons, by the Ghents, by the Colleys, by the Colemans, by the Rileys, by the Rabbs, by the Rankins, by the Scotts, by Grey, Baker, and Jernigan, and many others. There was also much reciprocal visiting among the families just named. The Arends family exposed themselves freely waiting on the sick. Bundrum was with Jernigan. Granberry and family were at Rabb's.

Of the few blacks who had the fever, Robert Johnson was with Storts; William Travis drove the dead bodies to the grave-yard; Todd Roberson drove Dr. Foard, and was at Ghent's.

Very few cases occurred out of that part of the town lying between the two creeks, and in these the fever was clearly contracted in the infected region.

Beyond Murder Creek there was one case, that of Mr. Gus Lewis. He had driven the hearse and helped to bury several of the earlier cases.

The family of Taylor Ghent, three in number, after exposure at Mrs. Downing's, moved about a mile across Burnt Corn creek to Phelan Ghent's. There were no subsequent cases in either family.

Mr. Scott, with wife and two sons, moved across Burnt Corn, wife and one son were sick when they moved, and the wife died. No new cases occurred.

Grey's children, five in number, were moved after his death out to Patrick's place beyond Burnt Corn. Patrick had four in his own family. The whole nine escaped.

Mr. Allen Johnson's family, three in number, were exposed by contact with Mr. Johnson, who was engaged in nursing the sick. After some time they moved to Bell's Landing, in Monroe county, and all escaped.

Mr. Jep. Blackshear, with family of four, after exposure, moved twenty miles to his father's on Escambia river, and no cases occurred. Father's family, five.

Mr. J. N. Purvis, with seven in family, moved after exposure about a mile across Murder Creek, and had no cases.

Mr. E. Downing, after exposure, with seven in family, moved five miles out to his mills, and had no cases.

Mr. Uriah Blackshear, with six in family, moved after exposure to Sumter Sowell's place three miles north of Brewton, and had no cases.

Mr. Charles Snowden, with five in family, moved three miles across Murder Creek into an empty house. One of the children got sick the next day. No subsequent cases.

Dr. Loveless had three cases and two deaths in his family in town. With nine in family he moved out three miles to his brother's place, and had no other cases.

Mrs. Bell, after the death of her husband, moved out five miles to her

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brother's on Escambia river. Mrs. Bell's family, seven; brother's family, five. No subsequent cases.

The family of Mr. E. F. Brewton, six in number, after his death, moved to the country, and had no other cases.

Many others, families and single persons, went away after exposure, and all of them not only escaped themselves, but proved entirely harmless to those with whom they found asylum.

CLINICAL REPORTS.

I give the clinical notes in eight cases. It would be easy to double the number; but these are quite sufficient to show the true character of the disease. Of these eight cases six were patients of my own. The other two cases were not seen by me, and for the clinical notes of these, namely, Mr. Grey and Mr. Snowden, I am indebted to Drs. Stone and Carson. I publish Mr. Grey's case because some of the specimens of black vomit preserved for microscopic examination were obtained from the vomit thrown up by him.

I publish Mr. Snowden's case because of the suspicious attack he had before Dr. Rankin got sick.

THE CASE OF DUKE STORTS.

White male, strongly built, thirty-one years of age, and reported to be of drinking habits. He was a graduate of medicine, but had never practiced, native of Louisville, Kentucky, resident of Brewton for the past two years, clerk at the railroad station; was employed in a similar capacity in Montgomery for a few months before the outbreak of the fever at Brewton; shortly after which he returned to Brewton and nursed some of the sick.

Oct. 10th, 9 a. m.—Was taken sick with a slight but protracted chill, kept on his feet, however, walking about in the hot sun until the afternoon. 5 p. m.—I visited him for the first time, found he had been taking purgatives freely for some time, and that the bowels had been moved twice during the day. He had also been taking quinine every morning for two or three weeks as a prophylactic. Headache, smoky eyes, urine abundant, pulse 120, temperature 104. Prescription—ten grains quinine at once. 10 p. m. Perspiration profuse, bowels freely open, pulse 120, temperature 104.

Oct. 11th, 9 a. m.—Perspiration still profuse, pulse 112, temperature 104. No medicine ordered. 3 p. m.—Skin drier but still soft, bowels loose, urine abundant, anxious and restless, pulse 112, temperature 104. Prescription—one drachm potassium bromide, which was taken that evening and night. 10:20 p. m.—Pulse 114, temperature 104.

Oct. 12th, 8 a. m.—Symptoms all deepening, bowels still loose, thin watery evacuations with very little solid matter, urine growing scant, thirst intense, pulse 100, temperature 104. 2:30 p. m.—Pulse 106, temperature 104½. 9 p. m.—Urine growing scanty, passed always with the stools, which

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were frequent, small in quantity, thin dark gruelly, pulse 106, temperature 105.

Oct. 13th, 9:20 a. m.—Profuse perspiration, pulse 106, temperature 105. 12:30 p. m.—Perspiration profuse, pulse 120, temperature 106. 9:30 p. m. Mucus spider web vomit, pulse 112, temperature 105½. Prescription, creasote mixture.

Oct. 14th, 2 a. m.—Spider web vomit continues, pulse 108, temperature 105. Prescription—brandy, wine, rub with dry mustard, also with alcohol. 9 a. m.—But little change, pulse 98, temperature 104½. 12:15 p. m.—Bowels checked, no urine voided during the last thirty-two hours, pulse 98, temperature 104. 6 p. m.—Skin moist but hot to the touch, eyes congested and icterode, slight epigastric tenderness on pressure, pulse 108, temperature 103, respiration 42. 12, midnight.—Great anxiety in countenance and speech, half ounce urine obtained by catheter showed albumen 50 percentum, pulse 108, temperature 102, respiration 42.

Oct. 15th, 8 a. m.—One convulsion, followed immediately by death.

Remarks.—The bowels moved from two to five times every day, stools thin from the beginning, and growing more watery from day to day, towards the last only a little muddy water, checked up at ten a. m. on the 14th.

The kidneys were reported to be acting well for the first two days; urine began to grow scanty on the 12th; from midnight on the 12th to midnight on the 13th there were three small discharges of urine, not more than two or three ounces altogether; by three successive accidents this was lost and examination prevented. From midnight on the 13th to his death on the 15th no urine was passed except the half ounce obtained by the catheter.

The temperature stood at 104 until the afternoon of the 12th, the third day of the fever, when it rose to 105, and continued to rise until by noon on the 15th it had reached 106. After this there was a gradual decline. This case exhibited the highest temperature observed in the Brewton epidemic.

This case is specially important because it furnished a subject for *post mortem* examination—the only one that was made during the epidemic.

THE CASE OF PHILIP ARENDS.

White, and previously healthy—a stout young man, a little inclined to be corpulent—had been taking purgative medicine freely.

October 19th.—Had a chill at 4 o'clock a. m. away from home, and walked a mile to get home. The chill was not protracted or severe. 9 a. m.—Skin dry, tongue clean, headache and backache, breathes deeply, pulse 106, temperature 103, respiration 22. Prescription very small doses of aconite. 2 p. m.—Profuse sweat, sighing respiration, urine abundant, no albumen, specific gravity 1020, smoky eyes, dusky skin, pain in back and head severe, pain in head frontal, pulse 96, temperature 102¾, respiration 24. 8:30 p. m.—General symptoms unchanged, pulse 108, temperature 103½, respiration 24.

Oct. 20th, 8:30 a. m.—Not so restless and less pain than last night, urine

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in good quantity, specific gravity 1030, urates and uric acid, no albumen, pulse 82, temperature 103½, respiration 28. 3:30 p. m.—Pain in head and back, great thirst, no desire for food, pulse 102, temperature 105, respiration 22. 10 p. m.—Very restless, mind wandering a little, pulse 96, temperature 105, respiration 22. Prescription.—To be rubbed every two hours with alcohol.

Oct. 21st, 7 a. m.—Had a very restless night, two thin dark stools, tongue broad, dorsum furred, edges injected, urine abundant, white mucus vomiting mixed with black specks, spider webs, pulse 82, temperature 104 4-5, respiration 18. 10 a. m.—Pulse 96, temperature 103¾, respiration 20. 2 p. m.—Urine specific gravity 1010, albumen 30 per centum, pulse 96, temperature 104, respiration 20. 9 p. m.—Spider web vomit frequent, discoloration of eyes and skin well marked, pulse 92, temperature 104, respiration 22.

Oct. 22d, 2 a. m.—Had eight or ten thin small actions from the bowels in the last thirty-six hours, labored breathing, no urine since midnight, pulse 80, temperature 104, respiration 28. 10 p. m.—Pulse 102, temperature 100½.

Oct. 23rd, 6 a. m.—Had a very restless night, not much fever, plenty of black vomit. 12 m.—All the symptoms worse. Died between four and five o'clock.

Remarks.—This was a very severe and characteristic case of yellow fever—one in which a fatal prognosis could have been safely made before the end of the first twenty-four hours. The medical treatment was purely expectant, and had no effect on the progress of the case.

THE CASE OF THOMAS GHENT.

White, adult, male, previously in good health, but very much exhausted by nursing yellow fever patients, especially his wife and child.

Oct. 21st. Has had headache for three or four days, bowels loose last night, ate a hearty breakfast this morning; at 8 o'clock, immediately after breakfast, had a chill. 10:15 o'clock.—Tongue clean, pulse 112, temperature 102, respiration 18.—Prescription—draughts of hot water until the breakfast is thrown up. 5 p. m.—Threw up the breakfast and has continued to vomit occasionally ever since, throwing up water, toddy, etc.; sweating very profusely, pulse 96, temperature 103¼, respiration 18. Prescription, whisky and water, and to be rubbed repeatedly with alcohol. 7:30 p. m.—Vomiting continues without abatement, throws up every thing he swallows, sweat very profuse, extremely weak, pulse 108, so feeble as to be counted with difficulty, temperature 100½, respiration 24. 10 p. m. Symptoms unchanged, colliquative sweating, very restless, pulse 108, temperature 100, respiration 24. Prescription—to be rubbed with dry mustard.

Oct. 22d, 7 a. m.—Colliquative sweating continued all night, surface and especially extremities cold, passed no urine during the night, continued vomiting all night; this morning the white vomit, intermixed with bees wings or spiders webs; pulse 112, temperature 103, respiration 24. 10 a. m.—Pulse 108 and hardly to be counted, temperature 98½, respiration 30, surface cold and clammy, intense thirst, vomits everything swallowed,

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complains of much pain and uneasiness, looks peaked, shrunken, miserable. 4 p. m.—Temperature 103, black vomit, still no urine, intellect clear. Prescription—two or three times to-day had small hypodermics of morphia, which seemed to give some relief and for which he begged piteously. The stomach refusing to retain anything stimulating enemas were tried, but were not retained, and did no good. Hypodermics of sulphuric ether were also administered. They did not seem to influence the pulse, but intensified abdominal pains and crampings.

Oct. 23rd.—Symptoms same as yesterday, only more markedly of desperate import.

Oct. 24th.—No pulse, no stools, no urine, no vomit, algid. Died at four o'clock p. m.

Remarks.—This case, although the initial symptoms were not alarming, proved to be desperate from the beginning. After a few hours the pulse grew so feeble that it could be counted only with difficulty, while at the same time it kept up to considerably more than a hundred beats to the minute. The perspiration was so profuse as to wet not simply the bedding, but even the mattresses, and while the surface of the body was cold, and the extremities icey cold, the sublinqual temperature remained at 103. The experiment with sulphuric ether was a dernier resort. The case was desperate. It could not be made worse. And it was vaguely hoped that its stimulating influence might be beneficial. The hope was not verified by the result.

THE CASE OF MRS. SNOWDEN.

White, of middle age, previously in fairly good health, waited on the Ghents.

Oct. 16th, 9 p m. -Felt chilly for an hour or two, notwithstanding which she had decided fever by half-past nine, with frontal headache.

Oct. 17th, 7:30 a. m. -Tongue very slightly coated on the dorsum, edges clean and not red, eyes slightly suffused, some supraorbital pain, skin moist, had a good action from the bowels this morning, pulse 100, temperature 101½, respiration 19. 2 p. m.—Skin quite moist, eyes slightly suffused, frontal pain better, pulse 92, temperature 103, respiration 20. 8:15 p. m. Pulse 80, temperature 102½, respiration 20.

Oct. 18th, 7:20 a. m.—Rested well during the night, bowels moved, skin moist, pulse 80, temperature 101, respiration 20. 8:15 p. m.—Menses came on to-day two days before the time, skin quite moist, slight pains in chest, front and back, tongue very slightly furred, not at all red, urine normal, pulse 85, temperature 101 4-5, respiration 22.

Oct. 19th, 8:30 a. m.—Had a good night's rest, menstruation free but not abnormally profuse, urine normal, pulse 86, temperature 101, respiration 20. 9 p. m.—Pulse 85, temperature 101, respiration 19.

Oct. 20th, 9:20 a. m. -Pulse 76, temperature 99, respiration 18. 5 p. m. Pulse 84, temperature 100, respiration 18.

Oct. 21st, 10 a. m.—Pulse 73, temperature 99, respiration 18. 10:30 p. m. Pulse 76, temperature 100, respiration 18.

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Oct. 22d, 10 a. m.—Pulse 76, temperature 98½, respiration 18. Tongue a little foul, did not rest well last night on account of Mr. Ghent, who was dying in the next room.

Oct. 23d.—Doing well, pulse 70, temperature 98.

Oct. 24th.—Same as yesterday.

Remarks.—This was a mild case, had virtually no treatment, and made a rapid convalescence.

THE CASE OF WAREHAM MUDGE.

White, age 15 years, has always been a delicate boy, bowels have been out of fix for several months, sometimes diarrhœa, sometimes constipation, now constipated.

October 15th, 6 p. m.—Was taken with no appreciable chill, but had considerable supraorbital pain. 8:15 p. m.—Supraorbital pain has subsided, eyes bright with dilated pupils, tongue clean and in every way normal, pulse 138, temperature 104, respiration 28. Prescribed a dose of oil.

October 16th, 8:26 a. m.—Had a good action from the oil, skin moist, some pain in the head, drowsy, eyes slightly suffused, pulse 114, temperature 104, respiration 23. Prescribed small doses of muriatic acid chiefly as a placebo. 11 a. m.—Had a loose, watery, darkish stool, some frontal headache. 5 p. m.—Pupils dilated, tongue normal, sweat profuse, some frontal pain, no stools since 10 o'clock this morning, thirst moderate, urine free, no albumen, specific gravity 1020, pulse 115, temperature 104, respiration 25.

October 17, 7:45, a. m.—Tongue shows a more shade of dorsal coating, no stools, frontal pain slight, muscular soreness, much less sweating, urine free, with trace of albumen, pulse 100, temperature 100½, respiration 20. 2:40 p. m.—pulse 108, temperature 101, respiration 21. 8:30 p. m.—Urine normal, stools none, some slight occasional pains in bowels, slight pain in back, sighs a good deal, restless, pulse 104, temperature 100½, respiration 18.

October 18th, 7:35 a. m.—Tongue slightly coated on the dorsum and slightly red on the edges, stools none, bowels a little painful, urine normal, had rather a restless night, more quiet this morning, pulse 92, temperature 101, respiration 20. 2 p. m.—restless, languid, sighing, pulse 90, temperature 99 4-5, respiration 18. 8:30 p. m.—Restless, sighing, respiration 18, pulse 85, temperature 99¾. Prescription, potassium bromide.

October 19th, 8:40 a. m.—Passed rather a restless night but slept occasional naps, and looks better this morning. Tongue slightly furred, skin dry, urine normal, stools none, pulse 80, temperature 98, respiration 18. 2 p. m.—Pulse 80, temperature 98½, respiration 18. 9 p. m.—Pulse 76, temperature 98, respiration 20. Thirst a little noticable, respiration sighing with occasional spell of a slight feeling of suffocation.

October 20th, 9 a. m.—Took a little raw whisky last night, and slept well, had a little chicken tea this morning, which he took with some relish, pulse 80, temperature 99, respiration 20. 5:20 p. m.—Pulse 84, temperature 97½, respiration 18.

October 21st, 10:30 a. m.—Rested well and doing well, has a little appetite, pulse 84, temperature 98, respiration 18.

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October 22d, 23d, and 24th.—Continues to do well. On the 24th had a simple warm water enema which moved the bowels favorably.

Remarks.—This was a very mild case, occurring in a feeble subject. There was almost complete anorexia throughout the attack until the commencement of convalescence. Sweet milk, butter milk, chicken tea, milk punch, whisky toddies, everything was tried to tempt his appetite, but he swallowed almost nothing. All the way through, the tongue continued very nearly normal, the slight coating of the dorsum, and slight redness of the edges were so slight as to be evident only to very careful examination. The bowels did not move for eight consecutive days. He had virtually no treatment. Subsequently his sister who nursed him had a very mild case.

THE CASE OF MISS CASSY BREWTON.

White, adult, female, of delicate constitution, and exhausted by nursing yellow fever patients for several weeks, from the beginning indeed of the epidemic.

October 23rd.- Had a chill early in the morning; in the afternoon, pulse 130, temperature 103.

October 24th, 9 a. m.—Urine abundant, albumen 15 per centum, pulse 90, temperature 102, respiration 36.

October 25th, 9 a. m.—Pain in stomach, back, and knees; had a restless bad night, stomach feels full and uncomfortable, urine abundant, specific gravity 1018, albumen five per centum, pulse 108, temperature 103, respiration 28. 1:40 p. m.—Pulse 104, temperature 104, respiration 26.

October 26th, 7:20 a. m.—Was restless during the night, complains greatly of sore joints and pain and discomfort generally; urine plentiful, pulse 112, temperature 103, respiration 24. 2 p. m.—Very restless, sore throat, pulse 104, temperature 102, respiration 28. 6 p. m.—Black vomit. 9:30 p. m.—Black vomit continues, a small discharge of urine, and about 10:30 a small stool with more urine.

October 27th, 9 a. m. No vomiting since midnight, urine albuminous, gums spungy and bleeding, skin dusky, eyes icterode; two stools from enema; pulse 98, temperature 99.

October 28th, 8 a. m.—Had rather a restless night, commencing at eight p. m., with a large loose action from the bowels, pulse 98, temperature 99. 6 p. m.—Fever went off, and patient came very near going into collapse. Stopped ice poultices, changed her clothing and bedding, put hot things about her, gave toddy, and she passed the crisis safely.

October 29th.- No record.

October 30th, a. m.- Temperature 99½.

October 31st, a. m.—Temperature 98½.

November 10th.—Convalescent, but still weak.

Remarks -The outlines of this case, given in the foregoing notes, afford a very faint indication of what it really was. The case fell into my hands on the afternoon of the 26th of October, shortly after the black vomit had made its dreaded advent. The patient was very weak, and of course, also,

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very much frightened. She had a great dislike for stimulants, to such extent, indeed, as made it difficult to administer wine or brandy at all, and this dislike continued until the middle of the day of the 28th, when, as her crisis approached, it passed away, and she was able to take either in reasonable quantity.

The thermometer at no time marked a very high temperature, the highest after I took charge of her being 103°, yet the feeling of heat in the stomach, bowels, and within the chest was of intolerable intensity ; and in treating her while her life was trembling in the balance, I made very free use of what I call ice poultices ; that is to say, ice crushed up and wrapped in half a dozen or more folds of a piece of old sheet, or something of that kind. Of course it would be better to use oil silk or rubber cloth, but neither of these was at the time obtainable. These ice poultices were applied almost constantly over the abdomen ; but were occasionally transferred to the chest, or to the small of the back. She seemed to have a perfect passion for them, and would cling to them even when asleep. In the presence of so decided an indication I felt perfectly safe in using them freely. Internally she had crushed ice in very small quantities. The only medicine she had was an occasional dose of sulpho-carbolate of sodium. This agreed well with the stomach at any rate, and was never thrown up. It seemed also to relieve the feeling of fullness and discomfort that precedes the black vomit, and to relieve the condition on which the vomit depends. However this may be, I ascribe the salvation of this case to these two remedies, ice poultices and sulpho-carbolate of sodium.

THE CASE OF E. A. GREY.

E. A. Grey, merchant, aged 34, native Monroe county, Alabama, has suffered from malarial disease, of sallow complexion. Direct exposure to Rabb cases. Taken sick October 16, 4 a. m., with slight chill, and vomiting bile, pain in back, frontal headache, pain in limbs, anxious and inquisitive, eyes injected, tongue broad and slightly furred, gums firm, temperature 102, pulse 130.

October 17, 10:30 a. m.—Temperature 103 3-5, pulse 100, has passed a good night, two bilious stools, vomiting yellow bile, pain in back still continues, but not as bad. Patient states that he was free from fever for four or five hours, which statement there is reason to doubt. Tongue broad and very much coated, no congestion of tip and edge, eyes slightly injected, nausea, no desire for food, urine 1020, no albumen, nitric acid precipitates, heat clears. —— p. m.—temperature 103 3-5, pulse 96, pain in back lessened, great nausea, vomited twice since last night, a dark coffee ground substance in quantity, complains of burning sensation in eyes, tongue large and clean, congested on tip and edge, urinates freely; urine light in color, specific gravity 1012, contains albumen.

October 18, —— p. m.—Temperature 98½, pulse 88, somewhat brighter and more calm, a great deal of nausea, which is greatly increased by the application of thermometer under tongue, has had some sleep, bilious evac-

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uation from bowels, no urine passed since morning visit, tongue furred, fissured, and congested on tip and edge. Later, 10 p. m.—Tongue fissured, nearly clean, anxious expression, face dusky hue, great depression, nausea, vomiting black vomit, grunting respiration, temperature 98, pulse 78, respiration 16, corrugated expression of face at each respiration as though in pain, no urine passed since morning visit, pulse feeble, burning sensation in stomach, soreness in lower portion left breast, continued in about this condition, at times semi-delirious, wanting to get up, no urine passed, convulsions set in and death closed the scene at 10:30 a. m., October 19, 1883.

Appearance immediately after death—color of body, deep intense yellow, no marked hypostasis, pupils dilated. Post mortem examination refused.

THE CASE OF JAMES SNOWDEN.

James Snowden, native Brewton, Alabama, aged 43, complexion light, hair and eyes brown. Works at the saw mills, of drinking habits. This attack has been preceded by hemorrhagic malarial fever. Direct exposure to the Storts' case. Taken sick October 15, with a prodroma of a few days, in which there was lassitude and discomfort in back and head, attack opened by rigor, increased pain in back and head, much nausea; nausea somewhat relieved by much vomiting, surface of body heavily covered with profuse sweat, tongue broad and indented on edge and lightly coated, temperature 104, pulse 130. --p. m.—Nervous and stomach disturbed, no desire for nourishment and has taken none; no albumen in urine. 8:45 p. m. Moaning, but not quite so restless as in the morning, but anxious; has had four or five bilious actions from mercurial purge, vomiting of bile still persistent, no change in tongue, eyes injected, no albumen in urine, temperature 104, pulse 120.

October 16, —— a. m.—Temperature 103¾, pulse 96, respiration 16, tongue broad and red, great depression and nausea, anxious expression, constant moaning, eyes deeply congested, icterus over body, retching or constant desire to vomit, ejecting yellow and green bile, pain in back intense, not much pain in head, ordered stimulants and lime water. — p. m. Temperature 104, pulse 88, still restless and moaning, albumen in urine 40 per cent.

October 17, —— a. m.—Temperature 101¾, pulse 96, respiration 18, tongue same, sighing respiration, moaning, pain in stomach, no pain in back, two watery evacuations from bowels, one ounce of urine passed, specific gravity 1020, albumen 25 per cent., eyes smoky, burning sensation in eyes, anxious expression, ordered bicarbonate potassium 10 grains every hour. Had taken last night sulpho-carbolate sodium for nausea with no effect. 4:30 p. m. —Temperature 101, pulse 96, respiration 24, eyes deeply congested, still moaning, slight capillary congestion in ears, apathetic, feels bad, pain in lower portion left breast, tired feeling; passed one-half ounce urine to-day, ordered albumen water, and also tablespoonful hot water every hour; giving the bicarbonate potassium every two hours. 8 p. m.—Temperature 99 4-5, pulse 96, respiration 36, passing thin watery stools. Mid-

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night. Great dyspnœa, no pulse, incoherent action of heart, dusky hue in face, with icterus deepening, mind reacts slowly when aroused, all pain and distress gone, says he feels better than at any time during his sickness. Continued in this condition until October 18, 6:30 a. m., when he had one convulsive movement of the entire body and immediately expired.

Three and one-half hours after death, pupils widely dilated, skin deep intense yellow, hypostasis not well marked, rigor mortis nearly complete, no purging. Post mortem examination refused.

THE POST MORTEM.

Post mortem examination on body of Duke Storts three and a half hours after death. Medical men present, Drs. Foard, Malone and Farish, of Alabama, Dr. Cochran, State Health Officer of Alabama, Dr. Carson, of New Orleans, and Dr. Stone, of Savannah.

A man of medium height, light complexion, sandy beard, brown hair and eyes, in good flesh and splendid physique. Hypostasis in dependent parts well marked, and ecchymosis (*post mortem*) of chest and abdomen prominent, general serface of body icterode, purging of blood unchanged from stomach, though in no great quantity. Great congestion of neck and lower part of face and temples. Eyes tinged slightly with yellow, pupils normal. No extreme congestion of conjunctiva. Scrotum and penis with *post mortem* hypostasis. Rigor mortis well marked and nearly complete. No hemorrhage from nostrils. Gums exceedingly pale and firm.

Section of abdomen and chest presented thick covering of adipose tissue, very little hemorrhage. Subcutaneous tissue stained yellow. On removing sternum, stomach protruded—distended with gaseous contents.

Lungs.—The centre of middle lobe of right lung for about two inches in diameter was in a state of congestion ; other lobes normal.

Heart.—Normal in size ; some fatty deposits on apex, ranging upward on right side, and also in sulcus between the ventricles. Exterior vessels of heart congested and prominent. Interior of heart, left side mitral intact. Substance of heart, left side, fresh color and and not unduly thickened. Passive hemorrhage from the walls. No clot or deposit of any nature in cavity. Semi-lunar valves normal. Thin dark *post mortem* clot in right ventricle. Substance of right side of heart notably paler than the left side. Tricuspeds normal.

Liver.—Gall bladder almost empty, and inner surface presented a brownish red substance which washing failed to remove, capillaries evidently full. Color of liver a dark boxwood the interior lighter than exterior. Rim of right lobe more intensified in yellow color, bordering on brown. Substance friable, but not extremely so. Hepatic veins open and but slight oozing. Liver but slightly enlarged, generally and evenly colored ; no isolated spots different in color, with one exception, which was on the under surface, a spot one inch wide and one and one-half inches long, of a light slate color, which on section gave the same homogeneous yellow color and lustre.

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Spleen.—Normal in size, appearance and consistency; interior raspberry jam color.

Kidneys.—About normal in size; no passive congestion; disposed to be yellow. No pathological changes noted in cortical substance or pyramids.

Duodenum.—Empty entire. Plain and distinct ecchymoses of the mucous membrane.

Stomach.—This was very carefully examined. The walls were very evenly and generally congested; possibly more congested on the posterior walls. Streaks of a black tenacious substance were all over the mucous membrane.

Intestines.—The large and small intestines contained but little, with the exception of a dark tenacious substance. No evidence of bile, or its constituents, could be detected. Bladder empty.

Completed at 1:15 P. M.

(Signed) J. T. B. FOARD, M. D.,
R. W. FARISH, M. D.,
H. H. MALONE, M. D.,
JEROME COCHRAN, M. D.,
GEO. H. STONE, M. D.,
WM. H. CARSON, M. D.

BREWTON, ALA., October 15, 1883, 11:30 A. M.

REPORT OF MICROSCOPIC EXAMINATION,

By Dr. Wm. H. Sanders, M. D., Censor and Senior Counsellor M. A. S. A., and Professor of Diseases of the Eye and Ear, and of Histology in the Medical College of Alabama.

Specimens of various organs and tissue obtained from the foregoing autopsy were submitted to Dr. Sanders, of Mobile, for microscopic examination—a work for which I beg to express here my special thanks; and the report of which here follows:

In November of last year I received from you, then at Brewton in this State, the following tissues for microscopic examination, namely:

A portion of pericardium,
A portion of stomach,
A portion of liver,
A portion of kidney,

All of which I was informed had been obtained in an autopsy upon a patient who had died of a fever which was then, or had been, prevailing at Brewton, and which had been pronounced by yourself and others to be "yellow fever."

The above tissues reached me immersed in a solution of hydrate of chloral—the strength of which I did not learn—and appeared to be in good condition.

Accompanying them were the following, viz:

Four glass slides, each having a drop of black vomit mounted on it;

Four glass slides, each having a drop of urine mounted on it;

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All being labeled as having been obtained from patients sick of the "prevailing fever," at various stages of their illness.

The tissues were allowed to remain in the chlor al solution for some time, and were then transferred to alcohol of moderate strength, and finally to absolute alcohol. So soon as they had attained sufficient firmness to admit of having microscopic sections cut from them the examination was made, the result of which I beg leave herewith to submit.

1. *Pericardium.*—Fat cells, varying in size from very minute to large ones, were found in tolerable abundance, chiefly, however, in the external or fibrous layer. At some points the considerable size and somewhat scattered arrangement of these cells seemed to indicate a *fatty infiltration* rather than a *degeneration*—the former being, as a rule, characterized by the presence of large fat cells, the latter by small ones. Another obvious distinction is that in fatty infiltration either a superabundance of fat is carried to the point of occurrence by the blood and deposited there, or an accumulation is allowed to take place by reason of a failure on the part of the system to expend a fair proportion of what is deposited; whilst in fatty degeneration there is a true metamorphosis of the elements of the tissues themselves into fat. The fact that fat cells are, or may be, present in healthy pericardial tissue renders it somewhat difficult, in an examination of this kind, to decide where physiology ends and pathology begins. At other points than those spoken of as resembling a fatty infiltration, such a considerable number of small to very minute fat cells were seen as to justify the opinion that a true fatty degeneration was also present.

Both processes may have existed side by side—the infiltration having been going on for some time and being unconnected with the last illness of the patient, whilst the degeneration was most probably recent and part and parcel of the affection which caused the death of the patient.

No other changes than those mentioned were noticed.

2. *Stomach.*—Nothing abnormal was found in this organ, all of its coats appearing to be well-preserved. If any pathological change existed it consisted in a slight swelling or enlargement of the epithelial cells covering the mucous membrane. At no point, however, did these cells seem to have undergone fatty degeneration, as fat cells could neither be detected microscropically nor by staining with osmic acid.

The muscular and other coats were likewise free from any sign of fatty degeneration. No erosions of the mucous membrane were found—the epithelial covering of it being intact. Possibly, if sections had been made from other portions of the organ erosions might have been discovered, but none were found in the specimen examined, and the sections made from it were tolerably numerous.

Neither did any section made show sign of extravasation.

3. *Liver.*—The connective tissue was decidedly increased in quality—so much so that the contours of the lobules were more sharply defined than is usually the case, and at some points there were considerable bands of connective tissue intervening between the lobules. A cirrhosis therefore existed, which, whilst it had not made sufficient progress to disable the

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organ, or even to impair its function to a perceptible degree, yet had progressed far enough to admit of ready recognition by means of the microscope. This process was, of course, a chronic one, and was in no wise connected with the last illness of the patient.

In addition to the cirrhosis the liver cells, and connective tissue as well, were found to contain fat cells of small to molecular sizes. It is well known that the presence of a limited amount of fat in the liver cells is not incompatible with a fair discharge of their function, but in this case the physiological limit had been so far exceeded that the organ had evidently passed into a condition of acute and extensive fatty degeneration, which must have seriously impaired its function.

The fat cells were not confined to the nucleus of the liver cells, but extended to their entire bodies, and were discoverable both by the microscope and by staining with a solution (2 p. c.) of osmic acid.

In many of the liver cells it was difficult, or impossible, to detect by means of the microscope (with magnifying power of 500 diameters) the presence of fat cells, on account of their molecular size and imbedded position, but upon immersing the sections in the solution of osmic acid for a few minutes only such liver cells would assume an intensely black color,—thus indicating the presence of fat. Indeed, very few or none of the liver cells escaped being very promptly stained by the osmic acid solution,—the color varying from a light brown to a deep black, the intensity depending, I suppose, upon the extent to which the contents of the liver cells had undergone the fatty metamorphosis.

Sections of pig's liver kept in the osmic acid solution for the same length of time as those of the specimen, showed comparatively slight staining.

It has been mentioned already that fat was present in the connective tissue of the liver as well as in its cells, and there it was easier of recognition by the microscope.

4. *Kidney.*—In this organ the pathological changes were less marked than in the liver. The epithelium lining the tubuli uriniferi was generally well preserved and normal looking. In a few places these tubes were seen to be denuded of their epithelium, but the contrary was the rule. Very generally the caliber of the tubes was seen to be filled with a granular-looking material, which possessed no characteristic form, but which in many places was stained of a bluish-black color by the osmic acid solution.

At some places the *free edges* of the epithelial cells lining the tubules were similarly stained, but the staining did not extend down to the base or attachment of the cells. The same sort of staining was also observed around the peripheries of some of the glomeruli.

As fatty degeneration is believed to consist in a metamorphosis of the albuminous compounds, it is easy to understand that in tissues in which this change is in transitu, as it were, just such staining from osmic acid might be obtained as that described as occurring to the granular contents of the uriniferous tubules, the free margins of the epithelial cells lining those tubules, and the peripheries of the glomeruli. The color was much less in-

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tense than that produced in the liver cells by immersion in the osmic acid solution for an equal length of time.

It would seem fair to conclude, therefore, that fatty degeneration in the kidneys was present in its incipiency.

5. *Black Vomit.*—When the slides containing the drop of this material were placed under the microscope a mass of brownish or blackish appearance was observed, which was destitute of all characteristic form. Where the layer was thin the color was brownish, where thicker or in heaps it was blackish. It will be understood, of course, that the material having been on the slides for some eight months had become perfectly dry and had lost any characteristic form which any of its constituents might have had when fresh.

The only point that could be determined was as to whether or not it had contained blood. As any blood cells that might have been present had become thoroughly disintegrated and destroyed we could not expect to find them as a solution to the question. The only resource left was to ascertain whether hematin, or the *coloring principle* of blood, was present,—this material being tolerably indestructible, and, if identified, rendering it perfectly certain that the black vomit had contained blood.

This I proceeded to do, and by employing the necessary chemical reaction was rewarded by finding numerous crystals of hydrochlorate of hematin of perfectly characteristic form and appearance. Whatever else, therefore, the specimens of black vomit may have contained they certainly contained blood, and as blood is present in the black vomit of yellow fever we may conclude that these were genuine specimens of that sort.

I should say that on one of the slides, marked as having been thrown up on the third day, I failed to find the hematin crystals.

6. *Urine.*—The examination of the slides containing the specimens of urine was negative.

To sum up the whole: Acute fatty degeneration seems to have been the pathological process, which was marked in the liver, less so in the pericardium, incipient in the kidney and absent in the stomach. Blood was present in the specimens of black vomit.

I add here the report of the examination made by Dr. W. H. Carson, of New Orleans, of specimens collected by him during his visit to Brewton:

"*Urine.*—Chemically tested presented from twenty per cent. to forty per cent. of albumen. Reaction, acid; color, pale yellow. The microscopic examination revealed the presence of granular casts of the tubuli uriniferi.

Black vomit.—Under the microscope presented disintegrated blood corpuscles, hæmatin, epithelium, and *bacteroid bodies* of *rod-like* appearance.

Liver.—Was of a general homogenous orange yellow throughout. Microscopical section showed an abundance of oil globules infiltrating the entire tissue.

An object glass one-fifth inch was used in the above examinations.

Stomach.—General appearance much congested, diffused, ecchymosed, and containing filamentous tracts of black tenacious matter. Examined microscopically with 4-10 object glass only confirmed the intensely congested condition already referred to."

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NOTES ON TREATMENT.

In the way of treatment, so far as I know, nothing new was tried at Brewton. A few things, however, in connection with the use of well known remedies attracted my attention, and may be worthy of mention here.

It seemed to me that quinine, however it was given, exercised very little influence whether for good or evil over the progress of the cases. I could not see that large doses at the beginning of attacks was of any benefit. Neither did they seem to be of any disadvantage. Small doses in all stages of the malady were without noticeable effect. Large doses given continuously for several days in succession certainly did not kill the patients as a rule, many recoveries occurring under this practice. But in a few fatal cases its bad effects seemed to me to be unmistakable; and in several cases that recovered after a long time I could not avoid the suspicion that the quinine had materially contributed to the production of the *quasi* typhoid type of fever, with red tongue, irritable bowels, and high nervous tension; and these symptoms sometimes persisting for two weeks or more, which, in these cases, marked the protracted third stage of the disease.

Ice, externally and internally, was found to be agreeable in most of the cases, and usually agreed well with the patients. At the same time it seemed to me that it was often used too freely, and that in this way an artificial appetite was created for it, just as children who eat snow may induce an insatiable factitious thirst which no amount of snow will appease. In a word, it seemed to me that it was quite as possible to abuse cold drinks and the use of ice, as it is to go to excess in the use of hot teas and heavy blankets. Still there were cases in which it seemed hardly possible to use too much ice, at least externally. In the case of Miss Cassie Brewton, for example, ice poultices were applied without intermission for two consecutive days and nights. They were kept most constantly over the abdomen, but were sometimes moved around and applied over the lumbar region; and sometimes moved up to the upper front portion of the thorax. This patient, while she took very little ice or ice-water internally, exhibited an insatiable passion for the ice poultices, and would cling to them tenaciously and unconsciously even in her sleep. The natural indication was too clearly expressed to be disregarded. And yet even in this case, and in spite of the closest attention, the ice came very near making trouble. At the end of about forty-eight hours the supernatural heat subsided, and the patient, weak to the verge of dissolution, came very near going into collapse. However, her damp clothing and bedding were rapidly changed for others that were warm and dry, hot things were packed about her, she was rubbed with warm alcohol, took stimulating drinks, and soon rallied; and from that time her convalescence was established.

In some cases I derived undoubted benefit from hot drinks, plain hot water proving as good as any. In two or three cases these hot drinks appeared to quiet the stomach when that viscus had begun to show signs of uneasiness; and in two or three other cases it had a good influence in controlling restlessness and nervous excitement. One case deserves to be

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specially reported. A lady who had been using ice very freely grew terribly restless, and complained of severe neuralgic pains in the left thorax. She was evidently in a highly hysterical condition, was tossing about in the bed, begging piteously for something to relieve her, protested that she must get out of bed if she did not get relief speedily. The ice was withdrawn, she had two teacups of hot water, and in ten minutes, like magic almost, the hysterical paroxysm subsided, the neuralgic pains passed away, and she soon went off into a quiet and refreshing sleep.

One medicine seemed to me, although I tried it only in three cases, to exercise a good influence over the stomach even after the commencement of black vomit. This was sodium sulpho-carbolate. It seemed also to exercise a good influence over the nervousness that accompanies gastric uneasiness, but in this case its action may have been incidental and indirect.

Stimulants—that is to say, brandies and wines—in proper cases and at proper times are of the very greatest value. But I think there is too much disposition to make a mere routine use of them, and to urge them on patients when they are not relished and not needed. It is perhaps fortunate that in epidemics, where they are supplied by relief committees, at least two-thirds of all that are brought into the sick rooms are consumed by nurses and other people not on the sick list.

CHARITABLE CONTRIBUTIONS.

A Relief Committee was organized in Brewton and went to work on the 13th of October. An account of the various contributions received and disbursements made by this committee is here republished from the Brewton *Banner* of the 24th of November:

"The following is a correct statement of the receipts and disbursements of the Treasurer of the Relief Committee of Brewton from October 13th, 1883, up to date.

RECEIPTS.

J. B. Rankin, Treasurer, in account with Relief Committee, Brewton sufferers.

Contribution from Pollard	$ 75 50
Greenville	80 00
Castleberry	25 00
Evergreen	149 10
Georgiana	26 75
Miriamville	44 00
Williams' Station	7 50
Mobile	90 00
Brewton	63 50
E. & K. Whitmire	10 00
B. L. Anderson	5 00
Gravella	23 00
Belleville	12 00

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Whiting	$ 37 10
Repton	29 00
Wilson	16 00
W. J. Williams	10 00
Can't-Get-Away Club	200 00
Montgomery	556 25
Fort Deposit	43 00
Juvenile B. C. Greenville	15 20
Bay Minette	31 50
George A. Downing	2 00
Milton, Florida	58 00
Selma	406 75
Perdue Hill	35 00
Monroeville	30 00
Pine Apple	21 60
M. T. Sprague & Co	5 00
H. Hosler	10 00
W. H. Gasque	15 00
Berry Demoville	10 00
A. & B. Moog	10 00
Wilson's Station	5 00
Dr. H. H. Malone	30 00
Pine Apple	2 45
Harold Bros. & Scott	50 00
E. Downing	100 00
Perdue Hill D. Co	6 00
Mt. Hebron Church (c. c.)	4 00
Eufaula	55 00
J. Blacksher, Jr	20 00
Andrew Harold	5 00
John P. Hubbard	5 00
P. Strobach and others	20 00
Josiah Morris & Co	53 15
Brunswick & Blake Co	15 00
Tuskegee	22 50
Cash	5 00
W. S. Mudge	5 00
Toney Roach	25
Union Springs	30 75
Arkadelphia Church	5 10
Rural Hill Sabbath School	3 00
Cash	4 70
Nashville, Tenn	100 00
John Rogers, Montgomery	5 00
John Massey	5 00
Cash	1 00
Tuscaloosa	30 00

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William M. Carney	$ 10 00
Birmingham	50 00
Mrs. Margaret McDonell	5 00
Charles Hall	5 00
Mrs. M. Arends, returned	2 00
Cash	70
W. J. Vankirk	10 00
Rev. S. Hecht	15 00
Hon. H. A. Herbert	50 00
Whole amount	$ 2,888 60

DISBURSEMENTS.

Mrs. M. Arends, boarding nurses, burial material, and clothing E. A. Grey's children	$ 183 45
Martin Brewton, nursing	15 00
Joe Baker, nursing	12 00
John Bundrum, nursing	30 00
J. Blacksher, beef, chickens and eggs	16 00
Mike Cheatham, attending and burying dead	16 00
W. J. Coleman, bedding and rooms for nurses, bedding furnished sick	24 00
Charles Crouter, nursing and burying dead	24 50
Francis Conway, nursing	69 00
M. P. Colley & Co., burial material	8 20
John Conley, beef	20 80
Malinda Crosby, cooking, washing and nursing	15 00
Mrs. Ann Condon, nursing	69 00
Dary Dean, burying dead	10 00
Express and telegrams	31 30
Frank Foster, burying dead	12 00
R. W. Farish, nursing and bedding	87 00
Amos Florence, nursing	18 00
Mrs. M. A. Guynn, nursing	18 00
Mackey Granberry, supply wagons and bottles	3 60
J. M. Granberry, nursing and boarding Mrs. Guynn	25 00
Hinote & Stokes, hearses and buggies, moving nurses from place to place, and supply wagon	126 00
Harold Bros. & Scott, medicines and groceries	223 40
Mrs. Annie Hairston, nursing R. T. Ghent's child, and W. J. Coleman's infant	36 00
Henry Harold, Jr., beef	10 60
Bartlett Johnson, nursing, attending and burying dead	33 00
Mary Johnson, nursing, attending and burying dead	3 50
A. F. Johnson, nursing, attending and burying dead	87 00
Lizzie Jackson, cooking and washing	21 00
Josephine Jackson, cooking and washing	2 00

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Father Johannot	$ 10 00
Robert Johnson, chicken	50
Lawrence Johnson, burying dead	2 00
Mrs. Mary Loveless, nursing	54 00
H. H. Malone, medicine and lumber for coffins	266 70
Mudge and Rawles, burning swamp back of stores	6 00
W. S. Mudge, making coffins, and coffin trimmings	130 95
George McIntire, burying dead	21 50
Miss M. E. McIver, nursing	6 00
Daniel Mautersham, burying dead	1 00
James McPhillips, groceries	188 50
Fred. Montgomery, nursing	9 00
Louis Patrick, burying dead and driving supply wagon	33 50
A. M. Patrick, nursing, superintending graves, and board for nurses and Grey's children	106 50
Henderson Potter, burying dead	1 50
Joe Payne, chickens, eggs, beef, and hauling produce	52 35
J. N. Purvis, country produce	40 30
Rebecca Potter, nursing and attending dead	5 50
Postage	80
Toney Roach, drayage	16 00
Ed. Roper, attending sick and burying dead	15 00
Todd Robinson, distributing provisions and dressing dead	21 00
J. F. Rawles, nursing	6 00
William M. Rabb, nursing Mrs. Guynn two and a half days	7 50
Adam Rabb, nursing and burying dead	32 50
Amelia Rankin, nursing, washing, and cooking	19 00
Henry Robinson, burying dead	13 50
John Rogers, burying the dead	75
C. F. Rankin, three coffins	36 00
John Sampson, burying dead	29 90
James Smiley, attending dead	1 50
M. T. Sprague & Co., medicine	133 70
C. H. Snowden, making and furnishing coffins	28 55
John Storts, coffin and paid for nursing	25 00
Hester Smith, cooking, nursing, and washing	15 00
M. C. Stokes, beef and chickens	6 40
Sisters of Mercy, New Orleans, nursing and railroad fare	75 00
Henry Sanders	25
Ellen Travis, nursing and washing	8 00
Charley Travis, bottles and errands	85
Henry Thomas, nursing	6 00
Willis White, chickens and eggs	8 80
Jake Watson	2 00
C. M. Ward, nursing	72 00
Clarke E. Weaver, beef	9 55
Katie Wallace	24 00

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Wilson Young	$ 6 00
Balance on hand	71 40

UNPAID CLAIMS.

Harriet Johnson, washing four days at Ghent's	2 00
Ellen Travis, nursing Hester Smith fourteen days	.....
J. M. Granberry, supply wagon	2 00
Cash railroad tickets	11 75
Express and telegrams	4 50
M. T. Sprague & Co., sulphur	9 50
R. W. Farish, board for Mrs. Stone one month	30 00

This statement is not footed up and balanced; but it is easy to see that the balance of $71.40 would be consumed by the unpaid claims.

To the $2,888.60, here acknowledged as received in cash, must be added the expenses of nurses, etc., paid by the Cant-Get-Away Club of Mobile, namely, $611.40, which does not include the $200 which the Club contributed in cash. This gives a grand total of 3,500 dollars.

Estimating the whole number of the sick at 70, as I have done elsewhere in this report, and it follows that every sick person in Brewton during the epidemic cost the Relief Fund on an average the sum of fifty dollars. But the relief committee was not organized, and no appeal for public help was made until the 13th of October, one month after the occurrence of the first case. It is fair to assume that twenty out of the seventy cases were either dead or convalescent before this time. On this presumption the number of cases who were beneficiaries of the fund is reduced to fifty all told; and the pro rata share of each is augumented to seventy dollars. In this calculation no allowance is made for those who were able to support themselves; and it is also to be remembered that none of this money went to pay doctors' bills, it being a fact that while every body else who did any thing for the sick or dead, in this epidemic, was paid out of the relief fund, the doctors received from this fund for professional services not a single dollar.

Take either of these two sums, take seventy dollars, or take fifty dollars as the per capita appropriation from the relief fund, remembering at the same time that this is exclusive of medical attendance, exclusive of the ministrations of kindred and friends, and exclusive of shelter and beds, and the thousand and one comforts and conveniences which people have about their own homes, and no one can fail to see that the money was somewhat lavishly spent. While I say this, I do not mean to suggest that any part of it was corruptly used; for, whatever may have been the facts in some of our great epidemics when money has been poured into our stricken cities like water, as in 1878 for example, when opportunities were frequent and temptations great, in our little Brewton epidemic I am satisfied that the money was honestly handled. Nevertheless, I believe that the real wants of Brewton might have been relieved by the judicious expenditure of less than one half of thirty-five hundred dollars.

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The proper use of relief funds in epidemics, and the restriction of their use to legitimate objects, is too large a question to be thoroughly discussed at this place. I will content myself, therefore, with pointing out one or two of the principle ways in which relief funds in times of epidemics, are, to my thinking, misappropriated. An epidemic, say of yellow fever, gets into a town or city; a relief committee is organized; an appeal is made to the charitable public for assistance; and contributions come pouring in. Many poor people get sick who need help; and many well to do people, who are quite able to help themselves, get sick at the same time. The appeal to public charity is based on the hypothesis of the existence in the community of the first of these two classes, and it is upon the same hypothesis that the charitable public contributes its money. It would seem clear, therefore, that in these epidemics none should receive help from public charity except those who are not able to help themselves. But the current practice of relief committees is very different from this. Their ambition is to care for all who get sick, and it is but too often the case that those who are best able to take care of themselves receive from the committees the best nurses, the choicest wines, and the most considerate and costly attention. If this is an evil at all, and such it undoubtedly seems to me, it is a very great one. In the meantime I know very well that some generous people look at it from a different point of view. The calamity, they argue, has fallen on the whole community, and the whole community should be helped. With this indiscriminate charity, however, I have no sympathy; but rather hold that an individual should always provide for himself and family as long as he can do so, by the use of all the means at his command, including the legitimate use of credit; and that every community should, in like fashion, exhaust all its resources of self-help before it appeals for charity to the outside world.

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(2) REPORT ON YELLOW FEVER IN PENSACOLA IN 1883.

The first case of yellow fever on the gulf coast in 1883, so far as is known, was that of F. E. P. Shannon, who lived near Fort Bayon, some seven miles from Ocean Springs, in Jackson county, Mississippi. He was taken sick on the 30th of July, and died on the 3rd of August. He was treated by his brother, Dr. Harvey Shannon, who had confronted yellow fever in Vicksburg in 1878, who did not, however, recognize the disease as yellow fever, until he looked back upon it in the light of subsequent events. The next case was that of Mr. Frank Snyder, who lived in this same neighborhood, was taken sick on the 4th of August, and threw up black vomit, and died on the ninth. The black vomit in this case provoked suspicion. After a little hesitation, Dr. Shannon pronounced it yellow fever. Dr. Case, the resident physician at Ocean Springs, and personally familiar with yellow fever, asserted that it was malarial fever, and with him sided the citizens of the town and its vicinity, thus making Dr. Shannon's surroundings anything but pleasant. There were four other cases, making six in all, and

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altogether there were five deaths, the last occurring on the 16th of November.

The first rumor of this outbreak reached me at Selma on the 16th of August, and I hastened at once to Ocean Springs. Passing through Mobile on the morning of the 17th, I heard of the outbreak at the Pensacola Navy Yard. Spending some thirty-six hours at Ocean Springs, I turned my steps toward Pensacola, which place I reached on the afternoon of the 19th. My object was to observe the situation and watch the course of events for a few days so as to see what measures were necessary for the protection of Alabama. I was soon satisfied that the *cordon sanitaire* around the navy yard, maintained by the Pensacola health authorities under the direction of the marine hospital service, was practically efficient, and hoped that from that focus, at least, the pestilence would not be allowed to spread. So far as I now know and believe, this hope was justified by the course of subsequent events, no yellow fever occurring anywhere else having been traced either directly or indirectly to the navy yard. I do not dwell upon this epidemic, since its history has been written by those who had immediate charge of it. Suffice it to say, the first case subsequently suspected as having probably been yellow fever was that of an engineer store keeper, who got sick on the fifth of August. The first undoubted case, and first death, was Charles H. Thompson, a child living in Warrington, who died on the 14th of August. It was not recognized at the time, but was confidently classed as yellow fever at a later date. About the same time cases occurred amongst the marines in the barracks. The facts were telegraphed to the navy department at Washington on the 15th, and given to the public on the 16th. The number of cases reported in this epidemic reached two hundred and sixty-one (261), and the deaths thirty-four (34). The problem of the origin of this outbreak, although it was investigated with very great care, has not been positively solved. I am not able to prove the fact, but my own very decided opinion is that it was derived from Pensacola.

On the 22d of August came the announcement of the first cases of the season in Pensacola itself—the two cases, since so famous, on Palafox wharf. These cases will be discussed at some length in another part of this report, and I therefore, for the present, pass them over. Then came the case of Emma Smith, also described in another part of this report, and then came rumor crowding upon rumor of cases occurring here and there, first in one part of Pensacola and then in another part, with occasional deaths with black vomit, the board of health, the newspapers and the people, earnestly protesting that the rumors were false, mischievous, and malicious, and that the cases in question were not yellow fever at all.

On the 7th of September a case occurred in Millview which was terminated by death on the 10th—the first case of about seventy (70), and the first death of twelve (12), in a population of about three hundred (300). There is no question at all as to the derivation of this Millview fever from Pensacola. I have the pleasure of presenting in connection with this report, an excellent account of this epidemic furnished me by Dr. Warren E.

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Anderson, a resident of Millview, who treated many of the cases, and who was himself sick of the disease.

THE CASES OF THE 22D OF AUGUST.

On the morning of the 22d of August, I was requested by Dr. White to see two patients of his on Palafox wharf. They were both very blonde and their skins had assumed a dusky yellowish hue. One was sitting up in his bed apparently convalescent. The other was still quite sick. He had passed no urine for several hours, but by means of the catheter about an ounce and a half was obtained from his bladder, and on examination proved to be loaded with albumen. Subsequently the urine of the other patient was examined and was also found to be albuminous. I took no part in the diagnosis of these cases, but waited for the action of the board of health. In the afternoon the board had a meeting and declared the cases to be yellow fever. Then I felt free to express my opinion and gave the official diagnosis my emphatic endorsement. I also at once telegraphed the facts to Mobile and Montgomery.

The two sick men were promptly removed to the quarantine station, where one of them soon after died, and the shanty in which they had been housed was pulled down and burned in the presence of many hundreds of excited citizens. The excitement spread rapidly over the city, and that night there was a general exodus of all unacclimated persons who could get away.

The next day, the 23rd, the sicker of the two men, as the result of the removal, died at the quarantine station. A *post mortem* examination was made of the body by Drs. Murray and Leonard, the quarantine physicians. Their report is here subjoined:

QUARANTINE, PENSACOLA, FLA., August 23, 1883.

Post Mortem Examination Report.—Henry Baldamo, white, Finland, Aet. 19 years, late of bark Dagmar; admitted at 5 p. m., 8.23; moribund, skin deep sallow, eyes clear, tongue completely covered with white and yellow fur; edge but no part of dorsum red; patient completely irresponsive; lies just as placed; will not swallow, respiration free, 20 to minute; pulse weak, 140, compressible; skin hot and dry; temperature 105 F.; no groaning or restlessness; no tenderness of stomach. 7 p. m.—Slight rigor, with a staring of eyes and sighing respiration; no response to speech; closes eyes when ball is touched; swallows with difficulty a cup of tea and one ounce of Port wine. 8 p. m.—Dead, without a struggle and little stertor; no odor, except of turpentine; no vomiting; skin hot and dry at moment of death; no moisture of forehead and lips while here.

Autopsy.—At 7 a. m., eleven hours after death, ecchymotic spots about neck, cheeks, shoulders and scrotum; skin sallow, not yellow; no odor; froth exudes from nostrils and lips; body well developed, half inch thickness of fat under skin; right lung free, dark blue in color, heavier than normal and frothy on section; left firmly adherent to chest wall, similarly congested as the right; sections float; heart covered with skin of fat; half ounce of fluid in pericardium; blood thin and dark, no clots; liver dark brick red externally, normal in size and color, no variation from dark brick mottled color except free flow of dark blood on section; kidneys enveloped in fat, right pelvis ecchymotic and containing small quantity of pus and blood; free flow

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of blood on section, free ends of pyramids ecchymotic, and by rubbing with scalpel blood points escape; left, considerable blood and water in pelvis, no pus, substance of neither altered, except that blood flows free on section; ureters, a little stringy blood and pus in each; bladder contains one pint dark and ammoniacal urine, with blood flakes; stomach contains half pint of tea and port wine, no black or sooty deposit, cardiac end ecchymotic, but coat, mucous, is firm, broken in no point. Intestines—externally the guts show the course of veins, moderately distended with gas, contain throughout a gray, glairy pus-like fluid; coats internally softened, but in no place ecchymotic; no trace of dark, black or bloody extravasation in whole course or gut, slight fecal odor, colon similar to small intestines, except that odor is stronger. Spleen—dark deep blue, normal in size, suprarenal capsule not altered, cavities hot and steaming but an entire absence of the old sweat odor of yellow fever. Muscles—firm and red. Rigor mortis continues as if the man had been shot.

The clinical and necropsy signs of this case are not those of yellow fever, and I unhesitatingly say that the patient did not have that disease. But he is dead! Yes, and dead of swamp fever, pernicious or congestive malarial fever, or, as I prefer. remittent fever with hematuria.

Since making the autopsy I find that the man left the city on August the 4th or 5th and returned on the 16th and took sick on the 17th, after a moderate debauch, having spent eleven days on the peninsular, two miles west of White Point, in the open air day and night.

Respectfully,

[Signed] R. D. MURRAY,
Surgeon M. H. S.

I concur fully in above.

T. M. LEONARD, M. D., Quarantine Physician and Assistant to Dr. Murray, Surgeon in Charge.

The publication of this report, with the confident and unqualified assertion of Drs. Murray and Leonard that the disease was not yellow fever; that the clinical and necropsy signs were not those of yellow fever; and that it was swamp fever, or pernicious or congestive malarial fever, or, better still, remittent fever with hematuria, gave a new turn to public sentiment, and was the beginning of the war against the physicians of the city, which, later in the season, raged so fiercely.

Drs. White and Fordham, the medical members of the Board of Health, had already committed themselves to the yellow fever theory of the case; and now Drs. Herron, Renshaw and Cravey, all of them familiar with yellow fever, and who had also seen the cases, published their opinions as to the nature of the malady in the following card :

CERTIFICATE OF DRS. HERRON, RENSHAW AND CRAVEY.

In regard to the cases of Dr. White on Palafox wharf, on one of which Dr. Murray made a *post mortem*, and which Drs. White and Fordham previously reported to the Board of Health as yellow fever, we have to say, that if the clinical history of those cases given us by Drs. White and Fordham at the time we saw them (just before they were removed to the quarantine station), was correct, *and we presume it was*, they could have been nothing else than yellow fever; and that Dr. Murray's *post mortem*, (see Dr. Murray's report to the Surgeon General, from Key West in 1875, which shows that he did not consider *post mortem* evidence conclusive), is not evidence to the contrary according to the eminent pathologist Stanford E. Chaille, of New Orleans, whose opinions we now quote: "The pathological anatomy of yel-

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low fever still lacks pathagnomonic lesions, and the cases are few, where the disease is not prevailing, in which the pathological anatomist, without recourse to the clinical history, could pronounce the lesions conclusive."

JAMES S. HERRON, M. D.
F. G. RENSHAW, M. D.
J. Z. CRAVEY, M. D.

This is not the place for the critical discussion of the differential diagnosis of yellow and malarial fevers. When I saw the cases and heard the clinical history of them, I was clearly of the opinion that they were cases of yellow fever. After reading the *post mortem* report, and in the light of all subsequent events in any way connected with them, I am still of the same opinion.

"The clinical and necropsy signs are not those of yellow fever," so says Drs. Murray and Leonard with confident official emphasis. *Per contra*, I undertake to say, that the clinical and necropsy signs are not those of remittent fever with hematuria. The clinical history indeed is the clinical history of yellow fever, and not the clinical history of any form of malarial fever. There was no hematuria up to the time of removal, but the urine was very scant and highly albuminous. The necropsy signs are ambiguous. The liver was not the box-wood liver of yellow fever, but neither was it the dark bronze or slate-colored liver of malarial fever. The spleen is described as normal, which is common enough in yellow fever; but I believe a normal spleen is absolutely unknown in malarial fever. The description of the stomach, containing half a pint of port wine and tea, is of little diagnostic value. Nothing is said as to the presence or absence of bile in the gall-bladder and the duodenum. To sum up the argument: The *post mortem* appearances are not those of a typical yellow fever cadaver; and on the other hand it would be difficult to imagine *post mortem* appearances less suggestive of any form of malarial disease.

THE CASE OF EMMA SMITH.

The next case of yellow fever that attracted public attention in Pensacola was the case of Emma Smith, a white woman of bad character who was taken sick on Palafox wharf nearly opposite Jasper Rand's, where the two sailors had been sick. She died on the 27th of September, and the *post mortem* examination led six out of the eight physicians of Pensacola to pronounce it a typical case of yellow fever. Nevertheless, the *Commercial* newspaper and many citizens declined "emphatically to believe that the woman died of yellow fever."

SUBSEQUENT CASES.

After the case of Emma Smith no other cases were officially reported or recognized in Pensacola during the year 1883.

There is good reason, however, to believe that there really did occur some forty or fifty cases with ten or twelve deaths. I had occasion to visit Pensacola early in October, reaching the place on the evening of the 6th, and leaving there on the 8th. During this visit I saw and conversed with

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all the physicians at that time engaged in practice in the city. I found that there was practically unanimity of opinion amongst them as to the existence amongst their patients of genuine specific yellow fever; and this information I telegraphed to Mobile and Montgomery for the guidance of Alabama boards of health. Montgomery was already enforcing quarantine restrictions against Pensacola, and Mobile, having suspended her quarantine for a season, put it in force again. The result of all these things was to draw down upon my offending head such a storm of denunciation and abuse as was probably never visited on any other health official in this or any other country. To this I made no reply at the time, feeling only too certain that the history of the next few weeks would furnish my more than sufficient vindication—a mournful and most tragic vindication in which every successive step was marked by the dead bodies of the victims of the pestilence whose presence I had announced; and now that the storm of the pestilence has passed away, and that the storm of denunciation and abuse has been forgotten by the great public, any circumstancial account of what then occurred would be of no great value.

I give, therefore, only a brief sketch of my experiences during that dreary summer, partly to show how little reason there often is in public clamor; and partly to show to what sort of tribulations health officials may sometimes be subjected.

THE TRIBULATIONS OF A HEALTH OFFICER.

Simply as specimens of the sort of abuse that was showered upon my unfortunate head, I reprint here the following extracts from the Pensacola *Commercial*, which, whatever may be said as to its standing as a newspaper, was, during that eventful summer of 1883, the leader and exponent of public opinion, public passion, and public prejudice in Pensacola. These extracts, and many others of similar character, were copied at the time in many of the newspapers of Alabama and Louisiana, and doubtless of other States, so that the general public must have reached the conclusion that the health officer of Alabama was a monster of mendacity:

To such men as Dr. Cochran, and some of our own doctors, the people are indebted for the loss of thousands of dollars of money, and an arrest of the progress and prosperity of this section that it may take years to overcome. Public slander has done its work, and the authors will yet receive the due reward of their nefarious conduct.

* * * * * * * * * *

We think it would be a good idea if every place that has any regard for its name for health would quarantine Dr. Cochran and not allow him to enter its limits during the season in which he could work up a panic.

* * * * * * * * * *

If Dr. Cochran is guilty of thus misrepresenting them, they—(that is to say, the physicians of Pensacola)—should at once take measures to set themselves right; and the citizens should notify Dr. Cochran that he will hereafter find Pensacola a very unhealthy city for him to visit, and that the further he keeps away from it, the greater will be his bodily comfort and his chances for a long life, and a peaceful, quiet final departure.

* * * * * * * * * *

The board of health officially denounces the statement to be false; we

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know that it is; but we also want to know who is responsible for it. The people of Pensacola demand, and they have a right to demand, of Dr. Cochran the name of every one of his "informers," and if he fails or refuses to give the names, then there can be but one conclusion, and even Dr. Cochran must know what that will be.

* * * * * * * * * *

Now, as every one at all familiar with the facts in the case knows that Dr. Cochran's statements to the Mobile Board of Health are utterly untrue as regards the existence of yellow fever here, the question naturally arises, whether Dr. Cochran manufactured his statements out of whole cloth, or whether some of the physicians in signing the above certificate (see *infra* certificate of October 10th) stultified themselves and have been playing a double game. It is a question of veracity between Dr. Cochran and the physicians of Pensacola, and as the matter now stands Dr. Cochran must bring forward his authority, giving the names of his informants, or stand convicted of uttering a wilful and deliberate falsehood, for he was here in person long enough to have found out the whole truth if he had applied to the proper authorities. The quibble suggested by the *Register* of "the difference between *is now* and *have been*" won't do.

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The Brewton *Banner* says "the people of the town are disposed to treat Dr. Cochran's report as a hoax."

* * * * * * * * * *

Dr. Jerome Cochran, the pensioned alarmist of Alabama, denounced as a falsifier of facts. The Pensacola Board of Health call upon him to make good his statements.

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As a fitting climax to these denunciations I add here the very fierce preamble and resolutions fulminated—no other word does justice to the occasion—fulminated against me, under date of the eleventh of October, by that astonishing body of men, the Pensacola Board of Health:

WHEREAS, President Guttman has received a communication from Dr. Ketchum, President of the Board of Health of Mobile, in which he states that he has received information from Dr. Cochran, Health Officer of Alabama, to the effect that there have existed in this city, within the past two weeks, twelve cases of yellow fever, of which eight cases have been fatal, and four of them with black vomit; and that Dr. Cochran claims to have received his information from eight practicing physicians of Pensacola;

Be it resolved, By the board of health of Pensacola, that this board denounce said statement of Dr. Cochran as false, and that the board cannot understand said statement of Dr. Cochran after he declared to citizens of Pensacola that he saw no reasonable cause for quarantine against this city, and the board therefore demand of Dr. Cochran his authority for stating that there had been twelve cases of yellow fever, and eight deaths—four of which had black vomit—within the past ten or fourteen days.

Further resolved, That this board do most solemnly protest against the enforcement of quarantine against this city, for the reason that it is absolutely free from all infectious or contagious diseases.

Bearing the same date with this fusilade of the board of health, I find also the following certificate signed by all of the eight physicians of Pensacola:

We, the undersigned, physicians of the city of Pensacola, do hereby certify that on this date there are no cases of yellow fever under our treatment, or to our knowledge prevailing in this city.

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A FEW WORDS OF COMMENTARY.

When I visited Pensacola on the 7th and 8th of October it was not for the purpose of seeking information from the Pensacola Board of Health. What sort of utterances that Body had for the edification of the public was sufficiently well known. They had shrieked themselves hoarse giving assurance to the outside world that there was no yellow fever in Pensacola. But the air was full of rumors of an entirely different character—rumors based on reported statements of Pensacola doctors—and rumors coming from citizens of Pensacola, who, in accordance with the advice of their physicians, had left the place to avoid yellow fever—rumors, also, derived from letters written from Pensacola by persons remaining there, to friends in Alabama. It was in consequence of these rumors, so little in harmony with the outgivings of the health authorities, that I was requested by the Montgomery Board of Health to go in person to Pensacola, and do what I could to ascertain the real facts of the case. I did not, therefore, apply to the board of health, but to the physicians of the city. These were, at the time, eight in number; and I saw seven of them; with the result that five of them told me, without circumlocution, that they had seen and treated cases of yellow fever; one described the symptoms of cases he had treated, and when I said, "Doctor, that looks very much like yellow fever," he shrugged his shoulders, and left me to believe that that was also his own opinion; one said that he had no case himself, but from what had been told him by the other physicians he was obliged to believe that there had been in the city limits several cases of yellow fever; and the one whom I failed to see was reported, on good authority, to have seen cases, and to be in entire agreement with his confreres. This was the information I received from the physicians of Pensacola; and there can be no question that it furnishes abundant warrant for the communication, already quoted, made by me under date of the 8th of October, to boards of health in Alabama.

But this was not all the evidence I had. It was a notorious fact, and a matter of angry discussion and denunciation at the street corners, that the physicians had again and again asserted the presence of yellow fever in Pensacola; and in the meantime, in almost every issue of the Pensacola *Commercial* there was served up for the delectation of the people some foul aspersion of the doctors, to the effect that dishonestly and mendaciously they had gotten up a yellow fever panic to the great injury of the city—said aspersions culminating finally in the sacrilegious petition, "Send us a frost, O! Lord, for the devil and the doctors have conspired to ruin us."

Let us look into the facts a little more closely:

(1) I did not report to the Mobile board of health, and to other health boards in Alabama, that there had been several cases of yellow fever in Pensacola.

(2) What I did report was, that the eight physicians of Pensacola had stated to me that there had been several such cases, and that amongst them they counted up as many as twelve cases.

(3) My alleged informants, therefore, were perfectly well known, and

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the grandiloquent demands of the Pensacola board of health, and of the Pensacola *Commercial*, that I should give the names of my informants were mere disingenuous bluster and rodomontade.

(4) If I had been guilty of any misstatement of facts it would have been easy to prove it. It was only necessary to get the physicians of Pensacola to say that I had misrepresented them.

(5) The Pensacola board of health saw this clearly enough, and did endeavor to get the Pensacola physicians to sign a certificate to that effect, and this they refused to do. They did sign the certificate of the 11th of October, to the effect that they had no cases *on that date* – an inflated bubble of a certificate which the Mobile *Register* pricked promptly, by calling attention to the wide difference between "*is not*" and "*has not been.*" They had told me the same thing on the eighth, and I had so reported to my Alabama boards.

(6) I quote in proof, two letters written to me by one of the physicians of Pensacola:

Under date of the 15th of October he says: "I have seen all of the physicians and they having nothing to say with the exception that they told you *in their opinion* there had been several cases of yellow fever here this season. The certificate that we signed was simply for that present time, which you can see from reading it. It has nothing whatever to do with the other matter, though several doctors think your action rather hasty in reporting the circumstances to your boards. Sequel of which is quarantine."

Under date of the 19th of October, he says: "The certificate you saw with our names attached was for that particular time with no reflections on you. Dr. ——, and Dr. ——, told Guttman if it had been several hours sooner *they could not have signed it.* How is that? Mr. G—, (which means Guttman), had one a few days ago carrying it around to the physicians, denying your statement, and also denying that we had had any cases of yellow fever, or any suspicious cases in the city *since the death* of Emma Smith. But to his discomfiture not a single man put his name to it. He was the cheapest looking fellow you ever saw."

(7) So much for the Pensacola board of health. Now let the Pensacola Commercial answer its diatribes: "The next thing we shall hear is that he"—(the "he" here alludes to the clerk of the board of health,)—"will be compelled to follow us one step farther, and call upon the doctors to make good their statements made repeatedly to private parties (if not to Dr. Cochran), within the last two months, that there was yellow fever in Pensacola, and advising them to remove their families."

THE PHYSICIANS OF PENSACOLA.

As to the physicians of Pensacola, and the part played by them in this mad drama, consideration being had for the unprecedented experience through which they were forced to pass, they must be judged with the utmost charity.

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They were abused and villified and denounced by the press and the people, after the most outrageous and astonishing fashion. Their medical knowledge was called in question. Their motives were most foully aspersed. Propositions were freely bandied from mouth to mouth, to hang them in effigy or to drum them out of town.

The most prominent targets for this measureless expectoration of billingsgate were the two medical members of the board of health. The people, mad with passion, would see to it that the board of health should be so reconstructed as to have on it no doctors at all, so that the wisdom of its counsels should not be marred by professional incompetency and mendacity. Mr. Mallory was to be defeated for the State Senate at the next election, because on some issue he had sided with the doctors against their assailants. Nobody who was not on the spot at the time can form any adequate conception of the state of affairs. It was in very truth a reign of terror.

Medical men are human creatures with human faults and weaknesses, and it is not to be wondered at that the doctors of Pensacola shrank from braving the full fury of this popular storm. Nevertheless, in my judgment, their course of action, under the circumstances, was not what it ought to have been. They should have done their simple duty without fear or favor, by giving to the public, not only the truth, but the whole truth; and when the worst came to the worst, should have published a full, definite, and collective statement of the real facts, with the names, dates, and places of all the cases of yellow fever that had come to their knowledge. Such conduct would have commanded the respect, and even the admiration of the great public outside of Pensacola, and would have shut in most effectual fashion the mouths of the mob at home.

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(3) REPORT ON SMALL-POX IN ALABAMA IN 1883.

SMALL-POX IN GREENE COUNTY, REPORTED BY DR. H. Y. WEBB, COUNTY HEALTH OFFICER.

It is the duty of the health officer, under the law, to report with regard to the late visitation of small.pox, that a true history may be furnished the State Medical Association at the meeting of that body next April.

I have endeavored to state facts, with all faithfulness—have "nothing extenuated and naught set down in malice." Have made no statement that cannot be verified by the most undoubted testimony, although it is due to myself to state that I have written hurriedly and under great hindrances and embarrassments.

On the 15th of September, the discovery was made that Charles W. Mabry, a colored citizen of Eutaw, had confluent variola. On Friday, the 7th, I visited Mabry, when he had quite a high fever; saw him the second time on the 9th; he then had an eruption which presented the characteristics of urticaria, extending over the whole surface of the body from head

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to foot. Saw him the third time on the 11th, when the character of the eruption had entirely changed. His face presented the appearance of a huge blister, extending over the neck. He said he had not been out of town since the 6th of June. He had been vaccinated eighteen months before. I did not know what the eruption was, never having seen anything like it before; thought it possible it might be small-pox, but was very positive in the opinion that it was not. After my visit on Tuesday I did not see Mabry again until Friday the 14th.

On Friday the 14th of September, I was informed that there was a colored man named George W. Ford at the Schoppert place, who was believed to have small-pox. I found him at the place, two or three hundred yards from the house, at work on a fence. Questioning him, he said he had "black measles," which he further stated had been contracted from Alex. Fullilove, a brother-in-law of Tom Glover, who came here from Choctaw county and died at Glover's house on the 26th of August; that he and Charles Mabry sat with Fullilove on Saturday, the day he died, and further, that Mabry and himself had washed and prepared the body for interment. He also said that the eruption on himself appeared on Friday, which was the 7th of September. He said he had been vaccinated when a child, and, on examining his arm, I found an old vaccine scar, with two points, hardly visible.

His mention of Mabry alarmed me greatly, so much so that I went to Mabry's and looked at him again. There was very little similarity in the appearance of the two eruptions; yet to my eyes, Ford's presented more of the characteristics of small-pox than Mabry's. Immediately, however, I looked up Dr. Morgan and requested him to visit Mabry with Dr. Barclay. The latter I did not find until late in the afternoon, and he promptly acceded to my request. As it was late, I suggested that we should postpone the visit till next morning. On the 5th of September these gentlemen went with me to Mabry's house, and at the first glance were convinced and informed me that it was undoubtedly small-pox. Dr. Morgan said confluent.

The fact that small-pox existed in town was at once communicated to Hon. W. Oliver, Probate Judge; S. W. Dunlap, Esq., Mayor; Dr. Jerome Cochran, State Health Officer; the Board of Health and the assistant health officers of the county.

Judge Oliver secured a place for a pest-house and quarantine station, within two miles of town, sufficiently isolated for the purpose required. In the meantime another case of small-pox was discovered at Glover's house, in the person of a niece of his wife, Laura Hunter, aged eight years. She had kept the flies off of Fullilove during his illness. The eruption had appeared on Laura about the 4th of September, and she had confluent variola.

Great credit is due to Judge Oliver for the prompt removal of the sick, their families and others connected with them, who had been exposed to the contagion.

Tom Glover, his wife, Betty, and their two children (Hubbard and Tommy) Betty and Laura Hunter, Sam Carter, George Ford and his wife

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Priscilla Ford, with Charles Freeman, the nurse, were sent to the pest-house.

Stephen Reese, his daughters (Lelia Mabry and Hattie Reese), Mabry's two children (Daisy and Cooney), with Lelia's grandmother, Maria Crenshaw Means, were taken to the quarantine station -making seventeen persons in all eleven to the pest-house, and six to the quarantine station. Of these Charles Mabry died of confluent variola on the 18th of September, George Ford, varioloid—convalescent when he was sent down—recovered. Laura Hunter, confluent variola, recovered. On the 21st of September Sam Carter was taken sick. The characteristic eruption appeared on the 24th. Carter had a mild varioloid attack and speedily recovered. The same day Betty Hunter, ten years of age, was taken sick—had also a mild case of varioloid and recovered. The same day, the 21st of September, Priscilla Ford, Hubbard Glover, aged five years, and Tommy Glover, two years old, were sick—had variola—and all recovered. Cooney, Charles Mabry's youngest child, two years of age, was taken the 24th of September—had variola, and recovered. At the quarantine, Daisy Mabry, aged five years, taken October 1st—had variola, confluent on the neck, and died October 13th. All the cases at the pest-house and quarantine station, recovered except two, viz: Charles Mabry and his daughter Daisy. There were seven cases of variola and three of varioloid.

The following cases occurred in the town of Eutaw:

On the 23rd F. P. Jarvis, white male, had a chill; eruption appeared on the night of the 27th of September—had varioloid and recovered. Alma Carlander, white female, twelve years of age, died of hemorrhagic variola on the 28th of September. Wilson Hunter, brother of Betty Glover, had a chill on the 23rd of September; eruption appeared Wednesday, the 26th of September, and he died on the 30th of variola. The 30th of October, Hugo Carlander, white male, and his infant son, twelve months old, were attacked—had varioloid and recovered. The families of these persons were isolated, vaccinated, and their premises disinfected. The dead were decently buried, without delay, immediately after death.

About one thousand points and quills were used in vaccinating the citizens. I believe the quills received from Dr. Ralph Walsh, of the National Vaccine Establishment, Washington City, were the most reliable and certain of all the bovine virus used. Successful vaccination is absolute protection. It will be the wisest economy to vaccinate every beat, until absolute protection is assured. The assistant health officers should be charged with, and paid for the faithful discharge of this duty.

The history of the invasion is as follows:

A colored woman, "who brought death and all our woe," named Eliza Burke, came from Birmingham, by way of Montgomery, Selma, Macon Station to York, the night of the fire, the 6th of August, as I am informed by Dr. J. N. McNeely, of Tompkinsville, Choctaw county, the home of Fullilove, who was ferryman there. Eliza Burke, Fullilove and his wife occupied the same room at York. On the morning of the 7th, Eliza Burke came on the cars to Eutaw. She was assisted from the train by Wilson

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Hunter, and went to the house of Balaam Neptune. Being alarmed at her appearance, he refused to receive her. However, Balaam reported the fact to me about 12 o'clock that day, that a woman with a suspicious eruption had been at his house and had gone towards Burton's Hill. I immediately informed Drs. Carson and Watson, with the direction to look out for her. I afterwards learned from Dr. Watson that she spent the night of the 7th at the McAlpine place. I vaccinated Balaam, wife and four children successfully.

The woman Burke returned to Eutaw on the morning of the 8th of August and took a freight train for Birmingham. She was arrested that night, or early the next morning, and safely lodged in the pest-house there. Dr. Rosser informs me that she remained in his charge until the 21st of September and undoubtedly had small-pox, having communicated the disease to three persons. Alexander Fullilove came to Eutaw, to Glover's house, on Saturday the 18th of August; had a chill on the 19th, thirteen days after he came in contact with Eliza Burke, at York, on the 6th, and was sick several days—had hemorrhage and died, I presume, of hemorrhagic small-pox on the 26th of August. Laura Hunter had the eruption on the 4th of September. Sea Bell Mabry died the 6th of September, suddenly, in convulsions, I suppose now, of suppressed variola. G. W. Ford had varioloid on the 7th of September. Charles Mabry died, as before stated, of confluent small-pox, on the 18th of September. On the 21st of September Sam Carter and Betty Hunter had varioloid. The same day Priscilla Ford, Hubbard Glover, and Tommy Glover were attacked and had variola. On the 24th of September Cooney Mabry had variola and recovered. On the 23rd Mr. Frank P. Jarvis, Alma Carlander and Wilson Hunter were attacked. Mr. Jarvis had varioloid and recovered. Miss Alma Carlander, hemorrhagic variola, and died the morning of the 28th. Wilson Hunter died 30th September of variola. Daisy Mabry was taken sick 1st of October, and died at quarantine station October 13th. H. Carlander and his infant son took sick on the 4th of October, had mild varioloid and recovered. There were seventeen cases in all—four among the whites with one death—thirteen blacks with five deaths.

Dr. Jerome Cochran, our excellent State Health Officer, promptly responded to my telegram; first by a letter full of wisdom, advising us of three things to be done—"isolation, vaccination, and disinfection." All these instrumentalities had been put in active operation by the board of health before we were gladdened by his presence on the 29th of September. Dr. Cochran's coming not only encouraged us greatly, but was of great benefit in calming the public mind. He was called away, by pressing official duties, to another part of the State, and left on the first of October, with the promise of a speedy return, should it be necessary.

Our colored fellow-citizens who were removed from their homes, submitted to the evils of the situation with the most commendable patience. Indeed, their conduct was truly worthy of great praise. They submitted to the loss of property, burned by order of the health officer for the protection of the public, without a murmur. Surely this loss should not be borne by

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them. No benefit accrued to them; it was for the public good alone. It is a burning shame to a christian community to permit it.

The commissioners promptly responded to the summons of Judge Oliver and met on the 17th of September, after they received notice of the existence of the pestilence. They ratified the action of Judge Oliver in procuring a suitable place for the isolation of the sick, and the families of those who had been exposed to the disease. They then apropriated $300, and then $200, and afterwards $150—in all $650—which was placed at the disposal of the health officer, and which they believed, economically used, would be amply sufficient to stamp out the scourge before the advent of cold weather. I felt greatly embarrassed lest the means should be inadequate to meet the magnitude of the peril which stared us in the face. They assured me, however, in the event the necessity should present, that they would supply the want. The appropriations were entirely exhausted by the 10th of October. We were still exposed to the scourge. But supplies of food and medicine for the sick and convalescent were secured by the assurance that all necessary expenses incurred would certainly be defrayed by the commissioners. By these means no effort was relaxed until we were happily delivered, and the people from the pest-house restored to their homes on the 29th of October, after a detention of forty-four days.

I would not be so presumptuous as to question either the justice or the wisdom of our excellent commissioners, yet candor and frankness require me to say that there are some claims still unpaid which I humbly trust will yet be allowed. For their generosity, kindness and confidence extended to me, personally, throughout my complicated troubles, I beg to return publicly to the Honorable Court of Commissioners my grateful, heartfelt thanks.

The board of health, consisting of Drs. R. T. Byrd, I. D. Morgan, N. C. Pyles, and H. J. Sanders, responded promptly to my call; helped me with all their might, and were, in truth, a "tower of strength," overwhelmed as I was with the sense of my insufficiency to meet such a fearful responsibility. They inaugurated a system which, by the blessing of the Lord, accomplished a most brilliant success.

It would be the basest ingratitude could I forbear to mention the invaluable services of Dr. I. D. Morgan, the secretary of the board of health, and the assistant health officer of the beat. He supported me nobly—lifted the burden, which was too heavy for me; exposed himself fearlessly: relaxed no effort; left nothing undone that he could do, from the beginning to the end. The grand old county of Greene cannot afford to be untrue to the tradition of her fathers—to lose her prestige—to practice a mean economy at the expense of justice—to permit such services as these gentlemen have rendered to the people to go unacknowledged and unrewarded.

Special thanks are due to Maj. Wheeler, of the Alexina House, for supplies sent from his table every day to the people at the pest-house, and quarantine station. His kindness was highly appreciated, and added greatly to the comfort and happiness of the poor people who were isolated so entirely from their homes and their friends for such a length of time.

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In conclusion, we would remember that it is to the God of Heaven, "with whom are the issues of life and death," who hath wrought for us a great and mighty deliverance. It is of the mercy of the Lord that we are alive upon the earth this day, to give thanks due to His Great and Holy name.

SMALL-POX IN MOBILE, REPORTED BY DR. E. H. FOURNIER.

A family by the name of James, colored, arrived here on the 9th of April and occupied a part of a double tenement on the north-east corner of Jackson and Poe streets. Two weeks afterwards one of the children developed an eruption which was regarded to be chicken-pox by the neighbors. 'On the 8th of May others of the family were reported sick, and upon investigation father, mother and two of the smaller children exhibited characteristic variola.' The whole family, with bed and other clothing, were sent to the pest-house, and after thorough fumigation of the premises the yellow flag was hoisted and the neighbors generally vaccinated. Six days afterwards a child in the next tenement developed the malady and was sent with her aunt, who chose to go, to the pest-house. The husband, Aaron Wilson, preferred to remain. The house was then put under guard. On the 9th of May it became necessary to remove Wilson also to the pest-house. Then the premises were again fumigated and all materials capable of retaining fomites were destroyed. The flag remained to warn all passers-by. No other cases occurred in that neighborhood. The vaccinations made were successful in a majority of the cases.

On June 5th a colored infant in the house first north of Davis avenue, on Maple street, was pronounced by the attending physician, Dr. Smith, to have small-pox. An elder child had already passed through a mild attack. The child had been going to the Davis Avenue Public School, which the older children of the James family had been attending just preceding the second development in that family. The house on Maple street was isolated and the family vaccinated and quarantined.

The infant died, but no others contracted the disease. Nor were there any cases to occur in that section or other portion of the city until July 3rd, when the house of Washington Hendricks, colored, on Hamilton, between Poe and Knox, was reported. The father and mother had isolated themselves with their three children, two of whom were found convalescing —one in the maturation stage of the disease. The yellow flag was hoisted and the surrounding people vaccinated. After the recovery of all of the sick the house and clothing received proper treatment with boiling water. No infection was propagated from this place, more by the secretiveness of the parents, which amounted to almost non-intercourse, rather than by the measures of protection employed at a period which, under other circumstances, would have been too late of application.

The origin of the Hendricks cases were also attributed to contact with the James children at the school. Immediately upon the discovery of the connection of the Maple street cases with the school the inmates were vaccinated.

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With the exception of another case, which occurred in Whistler on the 2d of June, which was sent to the pest-house, the above detail comprehends all that were brought to the attention of the health officer. A great many suspicious cases were investigated during this period, some of which exhibited an extensive distribution all over the body of papules. The mortality among those sent to the pest-house was very great, for of the ten but three recovered. These were young girls who, though exposed to a virulent type of the disease, exhibited only varioloid. The protection afforded by vaccination was evinced by each having a characteristic mark. Those who died were adults who had either lost their immunity or had never been vaccinated, and young children unprotected.

SMALL-POX IN CHAMBERS COUNTY.

There was an outbreak of small-pox in Chambers county about the end of 1882 or the beginning of 1883. The brief account I have gives no dates, but is itself dated February 1st, 1883.

George Denham came from Mobile, where at the time there was no small-pox, to visit his mother. Four days afterwards the eruption appeared. There were ten cases in all with only one death. The treatment was conducted by Dr. W. W. Tyson, who is my informant, and consisted chiefly of sponging with cold water twice a day, and the internal administration of veratrum viride.

SMALL-POX IN ST. CLAIR COUNTY.

Small-pox made its appearance in St. Clair county, in the town of Greensport and the immediate vicinity, about the 10th of December, 1882, and was suppressed about the 10th of March, 1883. Greensport is a little hamlet of some 25 or 30 souls, at the termination of navigation, on the Coosa river, and 12 miles east of Ashville, the county site.

One case only occurred in the town, the others were from a quarter of a mile to a mile and a quarter distant. The disease was communicated from one family of negroes to another by interchange of visits. There seems to have been but one white case, and this was the town case, and occurred in the person of Charles Austin.

There were thirty cases among the negroes, including three cases of varioloid, with seventeen deaths. Of these 13 were colored females, with seven deaths, and 18 were colored males, with 10 deaths—a total percentage of mortality of 56.333.

The disease was brought into the neighborhood by a negro from Chattanooga, who had been a nurse in the hospital at that place. He recovered and left the country.

The disease was mostly confluent. It was suppressed by vaccination.

For the facts here given I am indebted chiefly to Mr. N. V. Mars, who was the quarantine officer in charge of the outbreak.

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(4) REPORT ON PRATT MINES AND THE CONVICT PRISONS AT SAID MINES.

On the 21st of June I received from Col. R. H. Dawson, President of the Board of Penitentiary Inspectors, the following communication, requesting me to visit Pratt Mines, in company with the inspectors, for the purpose of investigating the causes of the sickness then prevailing at the mines and inflicting a large mortality on the miners:

MONTGOMERY, ALA., June 21, 1883.

Jerome Cochran, M. D., State Health Officer, Montgomery, Ala:

DEAR SIR—The Inspectors of the Alabama Penitentiary find an excessive mortality among the convicts engaged in mining, and they earnestly invite you to accompany one of their number on an inspection of the mines and the quarters of the miners, believing that you will be able to detect the cause, or causes of the large death rate, and to suggest a remedy. Should you wish it, all of the inspectors, or any portion of them, will go with you.

The inspectors are diligently and faithfully endeavoring to do their whole duty in the unpleasant work they have undertaken, and they ask your assistance in ascertaining the nature and extent of the evils to be corrected, and will need your advice as to the best means of remedying them.

Remembering your great services on a former occasion, under very similar circumstances, the inspectors hope for an acceptance of this invitation, in which event you will consult your own convenience as to the time of the proposed inspection.

Truly yours, R. H. DAWSON,
President of Board.

I was not able to leave Montgomery immediately, but arranged with Col. Dawson to make the visit of inspection a little later. In the meantime I received from the Governor the communication here following:

EXECUTIVE DEPARTMENT, JUNE 29TH, 1883.

Dr. Jerome Cochran, Health Officer of the State:

Grave complaints of the mortality at the Pratt Mines, among the State convicts, have been made to me by the Inspectors of the Penitentiary. You are, therefore, requested to go to said mines and make a thorough investigation of the causes, and report the result of your examination and investigation to this department.

E. A. O'NEAL,
Governor.

Accordingly, in company with the entire board of inspectors, I proceeded to the mines on the 3rd of July, where I remained two days and nights, and made as thorough an inspection as I could. The results were reported to the Governor under date of the 25th of July. This report is subjoined:

OFFICE STATE BOARD OF HEALTH, MONTGOMERY, July 25th, 1883.

To His Excellency, E. A. O'Neal, Governor of Alabama:

SIR—On the 3d day of this month, I had the honor to receive from you a request to inspect the sanitary condition and surroundings of the State convicts employed at Pratt Mines, in Jefferson county, for the purpose of ascertaining, if possible, the cause of the large mortality amongst them

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during the current year. I had previously received a similar request from the Inspectors of the Penitentiary to visit these same mines and prisoners, in company with one or more of their number.

Accordingly, on the 11th inst., in company with all three of the inspectors, I proceeded to Pratt Mines and the prison of Comer and McCurdy, the contractors for the convicts amongst whom the sickness had occurred, and remained there during the 12th and 13th; and I have now the honor to report the results of my investigation.

SICKNESS AND MORTALITY,

My first effort was to attempt to determine the character of the sickness and the extent of the mortality.

I found that, according to the diagnosis of the attending physicians, the causes of death were as follows, namely: Pleuro-pneumonia, with hydrothorax, that is to say, with watery fluid in the chest; fibroid phthisis, which it may be well to explain, is a chronic interstitial pneumonia; pericarditis, with hydro-pericardium, that is to say, an accumulation of watery fluid in the sack that envelopes the heart; one case tuberculosis of the lungs and messentery, in which the disease seems to have pursued an acute course; meningitis, one case; and one case in which the death was the result of accident.

It will be remarked that almost all of the diseases here mentioned as cases of death, are inflammatory diseases of organs in the cavity of the thorax or chest; and I feel quite convinced, in spite of the diversity of names, that the very large majority of the cases were of substantially the same nature, and due to the same causes. Post mortem examinations were made in some of the later cases, and I had hoped to be able to avail myself of these, but have failed to get them. A very brief clinical sketch is all I am able to give, and is all that is needful for my present purpose. The febrile reaction was rather high, the thermometer often running up to 104 degrees, and the pulse to 130 and 140 to the minute. Large doses of quinine reduced the temperature and the pulse, and caused the patient to seem better, so much so that the entry "better" occurs repeatedly in the record of cases, that nevertheless moved steadily on to a fatal termination. The tendency to the effusion of watery fluid was very decided—much more than in ordinary pleurisies. Indeed, it constitutes one of the characteristic features of the disease, the other most characteristic feature being the diffusiveness of the inflammations.

The sickness, and therefore, of course, the deaths, occurred exclusively amongst the colored convicts, and so far as I was able to learn the facts, amongst colored convicts whose health was already enfeebled, and whose systems were already below par before the advent of the malady that carried them off. In some of the convicts who died, this condition of debility was so marked, that the penitentiary physician in the course of his general inspection, had pronounced them unfit for work in the mines, and ordered them back to the walls, that is to say, to Wetumpka. Why his order was

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not obeyed, was not explained to me. He was only exercising the authority the law gives him. One thing, at least, is certain, that if his orders had been respected as they should have been, the mortality would have been very much less. I dwell upon this point with emphasis, because I think it is a very important one.

Why the whites escaped altogether the attacks of a malady that inflicted so much damage on the blacks, while whites and blacks were working side by side at the same tasks, is a very curious and very interesting problem, and one of which I can only offer a probable solution. The whites were doubtless less demoralized than the blacks; were able in many ways to take better care of themselves; and were less likely to be forced to continue at work when they felt unwell and unable to work. To these circumstantial causes I may add one of a physiological character, namely, that the negro has relatively a smaller lung capacity, and is naturally more liable than the white man to pulmonary diseases.

The ratio of deaths to cases I cannot give at all, because no record of cases, so far as I can learn, was kept until after the first of June, when the penitentiary physician took charge of the hospital at the prison. I am not even able to give with positive certainty the number of deaths, although I have put myself to much trouble, and delayed this report several days, trying to find out. As nearly as I can ascertain the facts in regard to the mortality at Comer & McCurdy's prison are as follows, the time being taken from the first of January of the present year to the 13th of July, the day upon which my investigation closed:

Total average number of convicts	198
Total average number of colored convicts	160
Total average number of white convicts	38
Total number of deaths in six months and a half, all colored,	14

This gives as the death rate, if calculated on the total prison population, 70.7 per thousand, for the six and a half months; which is equivalent to 130.5 per thousand per annum.

Or if we base the calculation on the colored population of the prison, for the reason that none but colored convicts died, we have then as the death rate for the six and a half months, 87.5 per thousand, which is equivalent to 161.5 per thousand per annum.

I do not know what the normal death rate in prisons is; neither do I know what is the usual rate amongst laborers in coal mines. We are sadly deficient in statistics in regard to such matters.

The compilers of the United States census for 1880 have calculated the death rate for the total population of the whole country 18 and a fraction per thousand for that year, a rate which I am inclined to think is too small. I estimate upon very inadequate data, it must be confessed, that the average death rate per thousand per annum in Alabama is not less than 20 nor more than 22.

It is estimated that during the last fourteen and a half months the average number of free miners employed in the Pratt Mines is about 400. Dr.

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Jones, who does most of the practice amongst them, tells me that in the time mentioned there have been amongst them about fourteen deaths—ten from disease and four from accident. This would give a death rate per thousand per annum, from all causes, of 29; and from disease alone, of 20.60. This is less than one-fourth of the total mortality rate among the convicts at Comer & McCurdy's prison; and less than one-fifth of the mortality rate amongst the black convicts there.

The mortality amongst the convicts employed in mining by Mr. Milner has been still more appalling. He had for the first five months of the year, according to the statement furnished to me, a total average of 49 convicts, of whom forty were colored, and nine white. Amongst these in the five months there were six deaths, all amongst the blacks; which gives a black mortality of 150 per thousand for five months, which is equivalent to 360 per thousand per annum. That is to say, if the same death rate was kept up they would all die in less than three years.

In striking contrast with this dreadful mortality of convicts in the coal mines is the fact that during the present year amongst a total of 246 convicts engaged in other labors, mostly farming, 267 of them colored and nine white, there have been no deaths at all.

I have said, a little while ago, that I was not able to state with complete certainty the exact number of deaths since the first of January, amongst the convicts employed by Comer & McCurdy. The calculations I have given are based on the presumption that the number is fourteen. But if it is one or two more or one or two less the ratios will be affected to too slight an extent to materially affect the arguments to be drawn from them. In the meantime, in order that those who have the necessary data may the more easily correct any errors into which I may have fallen, I add here the names of those who, according to the best information I could get, are to be numbered amongst the dead:

Deaths at Comer & McCurdy's from the 1st of January to the 13th of July:

January—None.
February 10—Alf Wilson.
February 13—Sebe Anderson.
March 3—Jerry Brassfield.
March 5—H. T. Carter.
March 17—Ransome Stokes.
March 23—Hub McClammy.
March 25—Wilson Billingslea.
April 1—Charlie Williams.
April 23—Frank Gregory.
May 14—Star Diamond.
May 25—Ben Daw.
June 10—Seaborn Rogers.
June 10—Jack Thomas.
July 11—Dick Richards.
July 12—Joe Gamble.

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This makes fifteen in all, but there seemed to be some doubt as to one of the names, and, as I have said, I have based my calculations on fourteen.

CAUSES OF THE SICKNESS AND MORTALITY.

The statistics I have given, imperfect as they are, are still quite sufficient to show that there has been more sickness, and especially more deaths, amongst the convicts engaged in mining than there should have been—are, indeed, sufficient to show that the mortality for the first six and a half months of the current year is four or five times greater than it should have been.

In order to discover if I could the factors of this excessive mortality, I proceeded to study: 1. The convicts; 2. The prison in which they are confined; 3. The mine in which they are worked.

THE CONVICTS.

It seemed to me, not from a thorough physical examination of the convicts themselves, but from such information as I was able to get from the penitentiary physician, who had made such examination, and from the inspectors, who had passed them under review in making out their classification, that the average physical condition of the colored convicts employed at this mine is not good; that an unusually large proportion of them are in various ways more or less enfeebled and below par. This being so, we might naturally expect amongst them an unusual prevalence of sickness and an abnormal rate of mortality, even if their surroundings were of average healthfulness. Still more would we expect this if we found in their surroundings any unusual prevalence of unsanitary influences. As a matter of fact, as already stated, most of the sickness, and perhaps all of the deaths, occurred amongst convicts who were known to be not in first-class condition.

Two other things may as well be mentioned here as elsewhere:

1. The convicts do not all finish their tasks at the same time. Some of them, after the completion of their tasks, instead of going at once out of the mine to wash themselves and put on clean and dry clothing, throw themselves down in the mine to rest and cool off. Doubtless strong and healthy men can do this with impunity; but it is easy to see that in men who are not strong and healthy, such a habit, by favoring refrigeration of the surface and congestion of the internal organs, might lead to disastrous consequences. I think it would be well, therefore, if every convict were required to leave the mine as soon as his day's work is done.

2. I think sufficient attention has not been paid to the ablutions of the convicts. They are now, indeed, required, when they come out of the mine, to wash themselves and change their clothing, which, so far as it goes, is as it should be. But I noticed that there was a very inadequate supply of towels, so that the most of them after washing had no means of wiping themselves dry. When I remarked on this it was stated that it was impossible to keep up a supply of towels, that they were stolen

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and destroyed by the convicts. Notwithstanding this, I am satisfied that it is possible to supply as many towels as may be needed, and they ought to be supplied in such numbers that every man on coming out of the bath shall have a dry towel for his own exclusive use, and not be reduced to the necessity of putting his dry clothes over a wet skin.

My attention was, also, called to the fact, by the penitentiary physician himself, that the water in all the tanks except two was quite cool—too cool to be safely used by overheated and enfeebled men—however it might be borne with impunity by those of stronger frames and more vigorous health. Here is a matter that demands constant attention.

There should be a responsible man in charge of the bath house, who should see to it that the water is always of a proper temperature and that towels are always to be had in abundance. It is true that the next day after attention was called to these deficiencies there was a generous supply of towels and the water in the tanks had been heated; but this was said to have been the first time in several weeks.

THE PRISONS.

It will be remembered that Dr. J. B. Gaston, at that time President of the State Board of Health, and myself, then, as now, State Health Officer, at the request of the warden of the penitentiary, made an investigation of this same prison on the 12th day of March last year, that is to say, some fifteen months ago. On that occasion, as will be seen by reference to our report, which was published in the Transactions of the State Medical Association and State Board of Health for 1882, pp. 196-204, we found:

1. That the prison was imperfectly ventilated.
2. That it was very much overcrowded.
3. That the clothing and bedding of the convicts were extremely filthy.
4. That the means for ablution were inadequate.
5. That the kitchen was too small, and the apparatus for cooking deficient.

In regard to these deficiencies but little change seems to have been made until a few weeks ago.

Recently, however, some improvements have been made, and others have been agreed upon and will, I am assured, be pushed rapidly to completion.

IMPROVEMENTS ALREADY MADE.

1. The new dining room is now used for the purpose indicated by its name, and the old dining room has been converted into an additional sleeping cell for colored convicts. The prison population remaining about as before this increase of prison accommodation, affords some relief to the overcrowding.

2. Windows defended by iron bars have been cut in two of the cells with the effect of very greatly improving the ventilation of the cells.

3. There is a better supply of water for the tanks in the bath house with a corresponding improvement in the facilities for ablutions.

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4. A new, comfortable and quite sufficient hospital has been built for the sick, leaving the old hospital room to be converted to some other use.

PROJECTED IMPROVEMENTS.

1. Windows for ventilation are to be cut in the remaining cells.

2. The sleeping capacity of the prison is to be doubled by adding on a second-story to each one of the existing cells. The frame of one of these second-story cells was already up at the time of my visit, and the carpenters were at work upon it.

3. A new and more commodious bath-house is to be built.

4. The kitchen is to be enlarged and the facilities for cooking increased.

5. The stockade is to be enlarged so as to give the prisoners more room for moving about when not at work; while at the same time by placing the high walls of the stockade at a greater distance from the cells, they will not obstruct the movements of the air to so great an extent, and so better ventilation will be afforded.

6. Clean beds have been already purchased, and will be placed in the cells as soon as the additional accommodations are ready; that is to say, as soon as the additional second-story cells are completed.

7. The latrines or privies are to be put outside the cells, and to be furnished with basins, traps, flushing pipes, discharge pipes, and plenty of water.

I think it tolerably certain that most of the improvements here mentioned will be completed in a reasonable time; and when this is done, while the prison will not take rank as a model prison, it will be an immense improvement on any of the mining prisons heretofore existing in Alabama; and will, I think, afford tolerably comfortable quarters for the State convicts; always provided, that overcrowding is avoided. There will still, however, remain some faults of arrangement, and others may easily creep into the daily routine of the management.

It is an accepted principle in the construction and management of prisons, that every individual prisoner shall have a separate cell of his own to sleep in, it being held that every human creature is entitled to a little privacy, and this principle is recognized in the legislation of the State, section 4584 of the Code providing that the prisoners shall sleep in separate cells. And separate cells are provided for them, I believe, in the penitentiary. I submit whether, under this section of the Code, it is not legally incumbent on lessees of convicts to provide also separate cells for the convicts in their private prisons. However this may be, I am sure it would be possible to give every convict a separate bunk of his own; and I am sure also that it would be to him a boon above all price; but I understand that while the new beds to be introduced at this prison will not be arranged on continuous platforms extending from one end of the cell to the other, but in separate bunks with spaces between them, that still two convicts will have to sleep together in each bunk; an arrangement not to be commended from the point of view of either physical or moral hygiene.

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Perhaps it may be well to explain that the so-called cells at Coketon are from 47 to 71 feet in length.

One of the things that struck me with special surprise was the filth and squalor of the beds and bedding; and my surprise hinged on the fact that it would be so easy to have it otherwise. Of course if the men are allowed to tumble into bed as they come out of the mines, reeking with sweat and grimy with coal-dust, the beds will very soon become offensive to more than one of the senses, damp and greasy to the touch, dingy and black to the sight, and to the nose quite unlike

"The sweet south that breathes upon a bank of violets."

But there is no excuse for this. The men should be required to wash and keep themselves clean when out of the mine, and put on dry and clean clothes before they enter the sleeping cells; indeed before they enter the dining-room for supper. Then the beds would not be so easily nor so speedily fouled; and when they begin to show too much filth the bed-spreads and bed-sacks should be washed. Water is abundant at the place, soap is cheap, there are plenty of hands to do the washing, and it ought to be done just as often as may be necessary. I do not mean to say that a man may not be able to stand a great deal of filth without getting sick. It depends a great deal upon the man and upon the sort of filth it is; but aside from its agency in the production and transmission of physical ailments, filth is demoralizing and degrading and ought not to be tolerated in the habitations and beds of human creatures.

THE VENTILATION OF THE MINES.

I am not a mining expert and can not speak with dogmatic confidence of the ventilation of the Pratt Mines. But I know something of the principles that underlie the practice of ventilation, and my very decided opinion is that the method of ventilation employed in the mines is a thoroughly good one, and that, in all its larger relations at least, it is well carried out. I examined the ventilation of three of the mines, namely: (1) what is known as the Shaft; (2) Slope No. 1; (3) Slope No. 2. The arrangements for ventilation in all of them are projected on exactly the same principles.

Take Slope No. 2 for example, the mine which is worked by the State convicts in the employ of Comer & McCurdy. The air enters the mouth of the slope, passes down the main gangway, is conducted into the various entries where the work is going on, and then, sweeping with it all the deleterious gases engendered in the mine, passes back through special foul air passages to the upcast, which is near the entrance, and so out into the great atmospheric ocean whence it was originally drawn.

With a proper arrangement of the air passages only one thing more is needed to keep up the ventilation of the mine, and that is that the current of contaminated air leaving the mine shall be passed through the upcast at a sufficiently rapid rate. And this may be managed in two ways: 1. By heating the air in the shaft so that it ascends by reason of its levity; and (2) by attaching a fan at the top of the outcast so as to sweep the air out and

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thus create a vacuum below. In the Pratt mines the method employed is that of rarifying the air in the upcast by means of heat.

The reason why the downcast, through which the fresh air enters the mine, and the upcast, through which the foul air passes out of it, are so near together are several: 1. The expense of sinking a shaft at other points through hundreds of feet of superincumbent earth and rock to serve as outlets for the contaminated air of the mine, is of itself an insuperable objection to that plan; (2) wherever the upcast might be located the excavations would soon leave it a long way behind, and (3) it really matters very little whether the air passages are long or short.

The ventilation of Slope No. 2, worked by convicts, is of precisely the same character as that of the Shaft and of Slope No. 1, worked by free miners; and I was assured by some of the free miners, intelligent white men who had worked in other mines in this country and in Europe, that they had never known mines with better ventilation than these. Of course I can not say whether every entry and working chamber is properly connected with the foul air passages. It would take a very elaborate examination to enable any one to do that. But wherever I went in the mines I found the air good, except in the foul air passages, and even in these it was not so bad as I would have expected it to be. In one word, I think the ventilation of Slope No. 2 may now be accepted as good.

But it has not always been so. The air in the upcast in this mine was formerly heated by steam pipes. These had grown old and leaky and out of order generally, and some three months before the time of my visit, perhaps during the first half of April, they were taken out, and for two months the ventilation was left to the unassisted powers of nature. Some two months later a furnace was constructed in connection with the upcast to take the place of the steam pipes that had been removed. During this time, at least, the ventilation is admitted to have been defective; and I am satisfied the steam pipes had performed their office so imperfectly for several weeks before their removal that we must extend the period of bad ventilation back over the month of March, and perhaps further back still.

At any rate there was a period of two or three months, if not more, during which the air in the mine was so charged with non-combustible gases—black damp and white damp, doubtless—that the miners' lamps burned with difficulty, and many of the miners themselves were struck down with what they call "smoke sick"

How much influence this condition of affairs may have had in the production of the thoracic troubles from which the convicts suffered so much, I cannot tell. On abstract grounds I should say that the inhalation of such air might contribute materially to the development of such diseases—might of itself, in enfeebled constitutions, be sufficient to turn the scale and precipitate an attack. It is not to be forgotten, however, that cases occurred in the persons of convicts who did not work in the mines; and that while the ventilation was presumably at its worst in April and May, the death rate was greatest in March.

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SUMMARY OF UNSANITARY INFLUENCES.

From the foregoing discussion, it will be seen that amongst the unsanitary factors at work in the production of sickness and death, the following stand out most prominently:

1. That an unusually large proportion of the convicts are physically enfeebled, and therefore are more or less unfitted for work in the mines.

2. That the negro convicts have been the principal sufferers, because the negro has a smaller lung capacity than the white man, and is known to be more liable to pulmonary diseases; and also because they have been more despondent and generally demoralized than the white convicts, and less able to protect themselves against adverse influences.

3. That the sleeping cells have been imperfectly ventilated and overcrowded.

4. That at least the feebler convicts coming out of the mine much exhausted, have probably suffered somewhat from bathing in colder water than ought to be used for that purpose, and this in connection with the want of towels to dry the body after the bath.

5. That the feebler convicts exhausted by fatigue, have also probably suffered somewhat from being allowed to remain in the mine after finishing their daily tasks.

6. That the mine for some months has been imperfectly ventilated, so that the miners have been obliged to breathe air surcharged with unwholesome gases.

7. That convicts have been kept at work in the mine who were physically unable to do that sort of work, and had been so pronounced by the penitentiary physician; and this cause of death, I think, has been more mischievous than any other.

8. I think there is very good reason to believe that another cause has been at work that I have not mentioned yet—not a demonstrable cause, but a very probable one. The physician's diagnosis in a considerable number of the cases of sickness was croupous pneumonia. Now, some of the highest medical authorities contend that croupous pneumonia is a specific infectious fever; and we know that pleuro-pneumonia amongst cattle is infectious. It may be presumed, therefore, that superadded to the predisposing and exciting causes that have been passed under review there may also have been some special epidemic influence at work with a special tendency to the production of the pulmonary inflammations and effusions which have been so markedly characteristic of this outbreak. If so, this epidemic influence has been sufficiently powerful to overcome none but the weak. The strong have been able to resist it.

WHAT CAN BE DONE IN THE WAY OF PROPHYLAXIS?

It is evident that the unsanitary influences which I have indicated should be abated where this can be done. Something in this direction has been accomplished already, and more is in process of accomplishment. The ventilation of the mine has been improved. The ventilation of some of the

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sleeping cells has been improved, and the ventilation of all of them will be improved very soon. The enlargement of the prison now in process will go far towards the relief of the overcrowding. My recommendations in regard to a better supervision of the bath-house, and the prevention of lounging in the mine after work is done, will no doubt receive proper attention.

The most important point of all, and the one most difficult of management, is how to keep convicts subject to temporary or permanent disability from being tasked beyond their strength. There is a natural disposition amongst many of them to shirk labor as much as they can. This fact creates suspicion against all of them ; and it is not always easy even for a skillful physician to decide whether the complaint of disability is honestly or falsely made. But certainly when the physician exercising his best judgment pronounces a man unfit for work his decision should be respected.

For the rest, the law ought to be enforced in all its provisions. Comfortable and commodious prisons, comfortable beds to sleep in, comfortable clothing at all times, sufficient supply of nourishing food, exemption from labor when physically disqualified for it, skilled medical treatment when sick, and humane management at all times—all these things the General Assembly unquestionably intended to secure for Alabama convicts, and all these things they ought to have.

In a word, the surroundings and habits of living of convict miners ought to be assimilated as nearly as possible to those of free miners. The free miner works hard, and while at work gets wet with sweat and black with coal dust. When he comes out of the mine he washes his body until it is clean, and puts on dry and clean clothing, and at night sleeps on a clean bed. When he does not feel able to work he keeps out of the mine until he recuperates, and when he is sick he has proper medical attention and nursing.

Now all of these, even the clean beds, it is possible to give the convict miner—all except one, which as we have seen can be given only partially, and that is exemption from labor when he feels unwell.

But even with all these things secured in the fullest possible measure to the convict miners, I do not believe that it is possible to reduce the rate of mortality amongst them to the comparatively moderate ratios that obtain amongst free miners. Amongst free colored miners I have no doubt that the mortality is considerably greater than amongst free white miners ; and there can be no question that it must be greater still amongst convict miners, and especially colored convict miners. Mining is a sort of work to which they are not accustomed, and the restraints of prison life make them apathetic and despondent.

We must make up our minds, therefore, to expect a somewhat larger percentage of deaths amongst convict miners than amongst free miners. But this percentage ought not to be four or five times as great, nor even twice as great.

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The death rate for the past few months has been exceptional, and I do not think it will continue. I know that the Inspectors are endeavoring to do their whole duty in the way of supervision, and the contractors seem to be willing to do anything that is required of them under the law. Abuses have grown up, but there is good reason to believe that they will be corrected.

In conclusion, I desire to express my thanks to the managers of the mines, and especially to Mr. McCurdy and to Mr. Johns, the engineer, for the courteous treatment I received at their hands.

ADDENDUM TO THE REPORT ON YELLOW FEVER IN PENSACOLA IN 1883.

It is greatly to be regretted that the real facts in regard to the number, location, names, and dates of the cases of yellow fever that occurred in Pensacola last summer will never be known. In the meantime I have come, from time to time, in possession of several items of information in regard to some of these cases which it seems to me to be worth while to put on record, for the reason that they go far to show that there were probably quite a number of cases in 1883 in the said city of Pensacola; and this notwithstanding the Pensacola Board of Health and the Pensacola *Commercial.* I am not at liberty to furnish the names of my correspondents or the names of the physicians who had charge of the cases; and will produce the documentary evidence I have on file only in case it should become necessary to do so in my own defense. In the meantime, it is proper for me to add that the accounts given of most of the cases which follow are literal quotations from letters in my possession.

I give first the notes of two cases occurring in July, which were not sufficiently well marked to warrant a positive diagnosis, but which presented so nearly the appearance of yellow fever patients as to provoke the suspicions of the attending physician, who, because they were not well defined cases, did not report them. All the other cases here referred to except these two are regarded as cases of yellow fever, beyond all reasonable question.

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(1) On the 7th of July I was called to see a young man with a fever of 103.2, and was told it had been about the same for the two preceding days. He could retain nothing on his stomach, and had not the previous day. Had been given quinine the two first days, but none on the day I first saw him, which was the third of his illness. The next morning, the fourth day, just seventy-two hours from the beginning of the attack, the fever left and never returned. He began at this time to turn very yellow, and had what was most probably retention of urine, as he voided it quite freely at night. On a test no albumen was found; so I concluded that what I first supposed to be a sporadic case was not so. He was out on the 9th day. (*Query.*—It would be interesting to know if the urine was tested only on the evening of the fourth day. If the test had been made on the third day it would have been more decisive.)

(2) On the 20th of August I had another case—a young woman—in which the fever ran from 102.5 up to 103.5 on the third day. On the morning of the fourth day it dropped to 99.5, and gradually went off. This case had no albumen in the urine, and did not turn yellow.

(3–4) The two cases at Rand's on the 20th of August; removed to quarantine on the 22nd; where one died and one recovered.

(5) I find the marines at the Navy Yard were reported August 16th, the seamen at Rand's August 22nd; and the first case I saw after these, that had the regular run of fever, with albumen in the urine on the 3d, 4th, and 5th days was on August 28th. He came from the Navy Yard a few days before the fever was announced there. (Did this patient die or recover? I cannot tell, I am inclined to think that he died.)

(6) The case of Emma Smith, who died on the 27th of September. She was made the subject of a *post mortem* examination; and Dr. —— says it was the most typical case he ever saw.

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(7) Mrs. Caldwell, near the post-office, on Palafox street. Recovered.

(8) Mrs. Esmond, on the Hill. Died, October 4th.

(9) Mr. Vincent, sick at Mr. Dooley's. Recovered.

(10–11) Two cases at Lorson's Sailor's boarding house. Both died.

(12–13) Two cases at O'Brien's boarding house, on Palafox wharf, below Rand's. Both recovered.

(14–15) Two cases on the British Bark Eliza Everett, lying near the end of Palafox wharf. One died in port, and six en route to Havana. The infection was undoubtedly contracted in Pensacola.

(16–17) About the end of October there were two cases, both fatal, at the European Hotel. I have two separate accounts of these cases, or at least of cases at this House about this time. One correspondent gives the names, etc., as follows: Mr. Price, a fisherman; and Mr. August Eberhardt, who came from Chicago about three weeks before he got sick, and who died on the 31st of October. The other account gives no name, and speaks of only one case. I do not know whether it was one of the cases mentioned, so I give it a separate number.

(18) The case at the European Hotel was seen by Dr. ——, on the morning of October 28th. The patient, an Italian, had been sick three days with fever, which presented all the characteristics of yellow fever. On the 29th there was total suppression of urine, and black vomit, followed by death. Dr. ——, and other physicians who saw this case, considered it to be a perfectly typical case.

(19) On the 29th, Dr. —— was called to see a man at the St. John's Hotel. This patient, a Kentuckian, I believe, had been in the city only three days, when he was taken sick. He died on the fourth day of his illness, with suppression of urine and black vomit. This case Dr. —— considers typical, as does Dr. ——, who saw it in consultation. From another correspondent I learn that the name of this case was Terry, and that he was from Louisville.

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(20) Another case in Dr. ——'s practice was that of Mr. M., who was taken sick on Friday, November 9th; and died on the following Tuesday, with suppresion of urine. He did not have black vomit.

It is quite certain that the principle lodgment of the infection was on Palafox wharf. It was there at Jasper Rand's that the cases occurred of the two sailors who were taken to the quarantine station. It was there, in the house of Lena Dillon, that poor Emma Smith contracted the attack of which she died. It was near this wharf that the Eliza Everett was moored when the infection boarded her; carried, doubtless, from some such house as Lena Dillon's. It was at this wharf, also, that marines from the Navy Yard were accustomed to land, and it is quite probable that it was from this wharf that they carried with them the fatal seeds of the pestilence that inflicted such dreadful consequences on the people of the Reservation.

PART V.—SUPPLEMENTARY PAPERS.

YELLOW FEVER EPIDEMIC AT MILLVIEW, FLORIDA, 1883.

BY WARREN E. ANDERSON, M. D.

DEAR DOCTOR—Your letter of the 5th inst., reminding me of the promise to report to you the facts of our late epidemic came to hand yesterday. I can only say in apology for my remissness, that owing to my very protracted convalescence I was able to undertake the task only after an interval of six weeks had elapsed from the time I wrote you, and then, after I was sufficiently strong, the subject came very near being forgotten.

To arrive at all the facts in regard to the disease, and to make a full and clear report would be almost impossible, but I think I will be able to demonstrate satisfactorily the origin and extent of the fever as it existed here, though I can say very little pertaining to the epidemic in the "Myrtle Grove" settlement, as I saw none of the sick in that locality, and heard very various and conflicting rumors in regard to it.

As you are undoubtedly familiar with the geography of this part of the country, its position and relation to Pensacola, etc., I will not enter into a general description of our town, situated, as you know, on the eastern shore of Perdido Bay, and about eight miles west of Pensacola Bay, with which it is connected by railroad. Despite the proximity to Pensacola—the

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ease of communication and many locally unfavorable circumstances militating against us at the time, we successfully combatted the introduction of the fever during the epidemic of 1882 by means of a well regulated sanitary cordon, and the active enforcement of other stringent quarantine measures. However, we were not so fortunate the past season, and the foe entered from a loss on our part of that "eternal vigilance" which is as much the price of health as it is said to be of liberty. We were sufficiently alert when the first alarm was sounded from Rand's boarding-house on the 23rd of August, and soon placed ourselves beyond the possibility of danger from yellow fever, but an overweening confidence in the correctness of Surgeon Murray's autopsy, and the declaration of the board of health who rescinded their former action publishing the existence of yellow fever in their city. They now sought to atone for injuries inflicted on the commerce of Pensacola, and to allay the just fears and suspicions of their neighbors by declaring the non-existence of any fever in the city, and stating that the general health of the community was never better—consequently, the alarm and excitement caused previously was extremely rash and uncalled for. That they succeeded in quieting the general uneasiness no one can deny without doing violence to the memory of some departed friend who fell a victim to the trust imposed in these guardians of the public health. To proceed, however, with the main facts; after a few days perfect confidence was restored, our quarantine restrictions removed, and communication with Pensacola was again free and uninterrupted. In fact we felt that our safety was now insured as the strong arm of the government had been interposed between us and the only supposed point of danger—the naval reservation—and, indeed, had there been no other source of infection many valuable lives and much suffering would have been spared this community.

As you requested some clinical observations, I will quote a few cases from my note-book of last year, and would especially call your attention to the first case, as "thereby hangs the tale."

September 8th, 1883.—Was called at 7 a. m. to see Mr. F.; carpenter; northern man by birth; age, about forty-five years. Had lived south most of the time for the past ten years. I found him pacing the floor in the most excitable and agitated manner. His whole frame was violently convulsed, and he had lost all self-control entirely. He stated that he had a chill the evening before—that it had not left him—and that the night had been passed in the most intense agony from pains in the back, upper and lower extremities, eyes, and back of the head—it was most violent in the lumbar and occipital regions. The face was flushed and anxious, eyes red and watery, tongue thickly coated with a light brown fur; skin dry and hot; urine very clear, and voided in small quantity; temperature 103.5; pulse 99 and full. After bathing the lower extremities in a hot mustard bath, the application of a sinapism to the lumbar portion of the spine, and the administration of a cathartic the patient expressed great relief, and under a full dose of the soda bromide soon quieted into sleep. On my return during the evening the bowels had not acted, and the cathartic was

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repeated. Quinia was left to be taken early the next morning, also the soda bromide, to be continued through the night, in full doses.

September 9th, 9 o'clock a. m.—No improvement manifested, save that the patient was more quiet, and the pain confined entirely to the "small of the back." Temperature 103; pulse 95; tongue unchanged; skin dry and parched; bowels acting freely; urine lessening in quantity, and highly colored.

At 5 o'clock p. m. same day the temperature was 102; pulse 93; urine scanty; bowels open, and the skin moist and pleasant. Gave in addition to other treatment turpentine, milk punch, and beef tea.

September 10th, 9 a. m.—No change observed for the better, though the patient expressed himself as feeling very well. Temperature 102; pulse 80; respiration labored, skin dry and parched, and urine suppressed—about two drams of blood were drawn off with the catheter—there was no urine at all. In spite of the most careful attention and active therapeutic measures the fatal congestion passed into uræmic convulsions, of which the patient died at 7 p. m. Remarks: In this case there was no epigastric tenderness, and no nausea or vomiting until the morning of the last day of the illness. The urine was not tested. At this time I was treating many cases of malarial remittent fever which yielded readily to the free administration of quinia, but in this instance it had little or no effect. I will quote a suspicious case, however, in which it acted most happily.

September 20th, 4 p. m.—Was called to see Mrs. G., who lived with her husband in an apartment adjoining that of the patient's, whose case I first described. I found her suffering intensely from lumbar and occipital pains, great restlessness, occasional vomiting of green bile, and a burning sensation about the eyes. Her temperature was 103, pulse 105, skin moist; tongue rather clean; bowels inactive, and the urine free and light colored. I ordered a sinapism to the spine and epigastrium, full doses of soda bromide, a cathartic, and left three five grain doses of quinia, to be given three hours a part, commencing at three o'clock the following morning. On my next visit at 9 a. m. of the 21st, she was much improved in every respect; her temperature had declined to 100, and under the dose of quinia given while I was there it went to normal, and did not rise again.

Her husband, Mr. G., asked me to prescribe for him on my visit to his wife during the evening of the 21st. He stated that he had felt unwell for several days, and had been obliged to stop work as he was having a light fever which had destroyed his appetite, and kept his bowels obstinately constipated. He did not think his sickness was of a serious nature, and said he could "wear it off" if his bowels were opened. I gave a purgative, and told him I would call to see him in the morning. On the following day, the 22nd, at 10 a. m., his temperrture was 100, pulse 95; skin dry and burning, bowels acting freely; urine plentiful; tongue thickly coated, and red on edges; countenace calm and subdued.

September 22nd, 7 p. m.—Patient getting restless and excitable; temperature 102.5; pulse 97; skin unchanged; face anxious; eyes red and watery.

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Gave muriate of pilocarpine subcutaneously, and the patient slept quietly for some time, while the skin became moist and pleasant. Left soda bromide to be taken during the night, and quinia early the following morning.

September 23rd, 9 a. m.—Quinia had been vomited, so no effect; some nausea and great distress in the epigastrium; temperature 100.5; pulse 90; bowels acting freely; urine of normal quantity and color; tongue becoming red and harsh; skin dry and parched.

23rd, 5 p. m.—Temperature 103; pulse 93; skin burning hot; pain and distress in stomach relieved. Gave muriate pilocarpine hypodermically but with little effect. Great restlessness manifested, and alarm shown in the countenace, so kept up the soda bromide in large doses.

September 24th, 9 a. m.—Nasal hemorrhage occurred during the night; some nausea; urine decreasing in quantity and highly colored; skin moist, and sallow; tongue, dry sharp, and red; temperature 100; pulse 85. Free stimulation with turpentine and other agents. Temperature rose in the evening to 102; pulse 89.

September 25th, 9 a. m.—Marked expression of exhaustion observed. Temperature 100; pulse 80; patient conscious, clear in ideas, had passed no urine in twelve hours. Stimulated actively, but with little effect, as vomiting of scarlet colored blood came on and fatal uræmic convulsions closed the scene at 5 p. m.

W. M.—Unacclimated Irishman, age 23 years; had been in this country about seven months, and was suffering from malarial cachexia at the time of attack. Was called to see him on the morning of October 10th, 1883. Found him with a temperature of 101.5; pulse 95; skin dry; face flushed; eyes red and watery; tongue heavily coated; bowels constipated; urine free, highly colored, and voided with pain. During the day the temperature rose to 103; pulse 100; epigastric tenderness came on; nausea; vomiting; pains in the back, limbs and back of the head. The countenance portrayed feelings of the greatest distress and alarm. The vomited matters were bilious at first, but afterwards clear and watery.

October 7th.—No abatement in the symptoms, save tha the patient was comparatively free of pain. The bowels had responded to the purgative given at first visit; urine lessening in quantity; tongue looked worse than it did yesterday; nasal hemorrhage occurred late in the day.

October 8th.—Patient becoming dull and apathetic, though he occasionally starts up in an active delirium. Hemorrhage from nostrils very profuse. No pain anywhere; bowels open; urine increasing in quantity under full dose of turpentine. Temperature 104; pulse 97.

October 9th, 9 a. m.—Temperature 101; pulse 89; at 3 p. m. temperature 103; pulse 92. Epistaxis comes on at intervals, though easily checked. Slight trace of albumen appeared in the urine at the close of the day.

October 10th.—Patient appears much better. Had three black, heavy and tarry-looking actions from the bowels; urine free, but loaded with albumen; tongue beginning to clear up; sclera turned a deep yellow color; nasal hemorrhage ceased entirely, and did not return again. Temperature

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at 10 a. m. and 4 p. m. 100. Giving milk diet exclusively as the patient refuses other liquid food; giving also milk punch, turpentine, etc.

October 11th, 10 a. m.—Temperature 100; pulse 79; at 4 p. m. temperature 99; pulse 75; skin moist; urine very free and highly albuminous; treatment continued.

October 12th.—Temperature 98.5; pulse 73 and weak; had another offensive, tarry-looking action from the bowels; skin and tongue resumed their natural moist condition.

October 13th.—Temperature 97.5; pulse 70; perspiration and urine very profuse; fecal matter very bad in color and smell. Giving ammonia carbonate, brandy and turpentine.

October 14th.—Temperature and pulse normal; fecal matter changing in color; skin pleasant; urine clearing up, and all the organs again resuming their normal functions. The patient recovered rapidly, but I did not see him for two months, as I was then attacked suddenly and with great violence by the fever, and came near being numbered among its victims.

Supposing the above extracts from my clinical notes are sufficient for your purpose, I will sum up a few facts coming under the observation of Dr. Herron, to whose kindness and skill I am largely indebted for my recovery, and to whom many others are similarly indebted. I will also say that of several cases treated by me during my convalescence, I observed little or no difference in general manifestations of the disease from those in some cases related to me by Dr. Herron. First, there was a febrile duration of 72 hours, subject of course to slight variation in a few instances. In almost every case albumen appeared in the urine promptly on the 3rd day of the attack; epigastric tenderness, nausea and vomiting became marked symptoms. In but a single instance did the pulse rate exceed 110; nor did the temperature rise higher than 104, save in one case (my own, treated by Dr. Herron), and it rarely went above 103.5. Hemorrhage from the gums or nostrils was common among male patients, and in no case, I believe, did it fail to appear from the vagina in females. The mode of termination in 75 per cent. of the fatal cases was from uræmic poisoning—a few had black vomit. Instances are recorded where persons were sick with plainly marked malarial fever in the same house with others suffering from yellow fever, and yet escaped an attack, though they had never had the disease. Other cases are not wanting where unacclimated northern people escaped entirely, though they were constantly exposed to the infection. Negroes seemed but little more exempt from the fever than whites, and several fatal cases occurred among them.

I am afraid it is impossible to arrive at the exact number of cases attacked, as there is little doubt in my mind that many negroes had the disease and recovered without treatment. I think, however, that out of a population not exceeding three hundred in the summer and fall, it would be safe to say that fully seventy cases occurred, and of this number twelve cases, or about 16 per cent., were fatal. As to the origin of the fever, there is not the least doubt that it was brought from Pensacola, where it had

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hibernated after the epidemic there in 1882. It is certainly a fact that there was nothing like an epidemic in Pensacola during the past season, but that there were a good many well marked cases is undoubtedly true, as they came under the observation of every physician practicing in the town.

Mr. F., whose case I described first, and to which I called your particular attention, had spent the night about ten days before he sickened in the *immediate* vicinity of Rand's incinerated boarding-house, and three days before he was taken down he again visited his inamorata, and remained there 36 hours. If it were possible to controvert these facts, it would still be a singular coincidence, that of twelve or fifteen persons who were with him during and after his illness, only one or two escaped the fever. Of equal import is the unfortunate circumstances connected with the British vessel "Eliza Everett," which sailed from Pensacola in October or November last. She was compelled to "put into" Havana in great distress, as almost the entire crew had perished on the voyage of yellow fever, contracted while in the port of Pensacola. Her majesty's consul at Havana, in a letter to the vice-consul at Pensacola, commented in strong terms upon what he supposed was an error in the diagnosis of these cases, and wondered how any one could be mistaken as to the nature of the illness; "for," said he, "every one in Havana could recognize it."

As to the "Myrtle Grove" settlement I can only say that the fever was reported as being very fatal there. From the best authorities I learn that there were eighteen (18) cases, with a mortality of 13, or about 70 per cent. This large number of fatal cases was probably due to the fact that the inhabitants were too poor to provide themselves with proper food and bedding, so necessary in treating yellow fever.

THE STATISTICAL NOMENCLATURE OF CAUSES OF DEATH.

INTRODUDTORY NOTE.

The Board of Health of the State of Alabama has not heretofore published anything like a full Nomenclature of the Causes of Death, for the reason that they have been waiting for the long expected revision of the Nomenclature of Diseases known to be in preparation by the Royal College of Physicians and Surgeons of London. This is now passing through the press; and advance sheets have been received by the New York State Board of Health, the Secretary of which has prepared a condensation of it for the use of the health officials of that State. This condensation still further condensed, is here printed for the guidance of health officers in Alabama in making returns of the causes of deaths :

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A correct knowledge of the causes of death is found to be very essential to a clear and comprehensive view of the laws of life and health. Public registration of deaths, while serving the individual and social ends of correct records, useful in evidence and the annals of families and communities, has a far wider and more universal utility in unfolding a vast series of facts relating to the causes that have terminated the individual lives in successive generations in each sex, age and occupation or condition, and in different places. Facts so recorded as to be compared and studied for great purposes in the interests of society, constitute Statistics; and thus considered, Vital Statistics hold a supremely important rank in this department of useful knowledge and the practical sciences.

It has been well remarked that, "for the registration of such statistical facts it is clearly requisite that there should be a uniform Nomenclature of Diseases, co-extensive with the area of investigation." The towns, villages and cities of New York, now containing about 5,500,000 inhabitants, having at last adopted a uniform and satisfactory system of public Registry of Vital Statistics, and the medical profession throughout the State having become generally interested in the success and uses of the records of Life and Death thus systematized, there has arisen a necessity for adopting and promulgating a Systematic Nomenclature of the Causes of Death which shall be satisfactory to physicians and in fullest accordance with the advanced conclusions of pathology and medical research, as well as with statistical nosology. It is for this purpose that the State Board of Health of New York offers to the local Boards and Registry officers, and to the physicians in this State an abbreviated and conveniently arranged Statistical Nomenclature, based upon the Nomenclature of Diseases and Causes of Death as prepared by the Royal College of Physicians for all English-speaking countries and revised by that learned body of Physicians and a committee of the U. S. National Board of Health, and now being printed. This arrangement and abbreviation of the Statistical Nomenclature, especially prepared for use in the New York State Bureau of Vital Statistics, in the Registry of Deaths, is believed to be more fully adapted than any other to throw light upon and secure correct public records of mortality, which shall be comparable and uniform throughout the State; and it is offered to Physicians and Boards of Health as one of the necessary aids to the correct registration of Causes of Mortality, and as an essential contribution to the duty of States in promoting reasonable uniformity and correct means of reporting and usefully comparing the Causes.

As this Board committed to its Secretary as the Superintendent of the State Bureau of Vital Statistics, the duty of so preparing an abbreviated Statistical Nomenclature that it shall be in fullest accord with the latest and best arrangements of the kind in existence, it now remains for the medical and registering officers throughout the State, in accepting this offering from the Central Bureau, to contribute in all useful ways to the success of the effort to make the Public Registration of Vital Statistics in the State of New York numerically complete and perfect, and as accurate and useful as possible.

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STRUCTURE AND CLASSIFICATION OF THIS STATISTICAL NOMENCLATURE OF DISEASES AND CAUSES OF DEATH.

An objective point in the classification.—The Committee of the Royal College of Physicians, Sir Thomas Watson, Chairman, said in the final report upon the approved Nomenclature, "A good classification aids and simplifies the registration of diseases; helps towards a more easy comparison and knowledge of them, and towards the storage of experience respecting them; and facilitates the discovery of general principles from collected, grouped and compared phenomena."

In attaining these important ends, the English physicians and statisticians decided to adopt, as generally as consistent, an anatomical basis of classification; that is, grouping and arranging the list of diseases and injuries of the different "parts of the body as they lie anatomically." This arrangement has been made to comprise—

"*General diseases*, which affect the whole frame rather than any special part of it."

"*Local diseases*, which occupy special parts of the body."

"*Groups of Diseases and other Causes of Death not necessarily associated* with General or Local Diseases."

An important Principal attained in the revised Nomenclature.—The Nomenclature is made to indicate the relation of causes and effects in the production of disease or death.

A practical suggestion, and some provision for it.—The complex causes and pathological events that may be found charged with causing death, will, in ordinary certificates and public Registers of Death be entered under one cause, (viz., the "chief and determining"), yet the hospital physician and certain scrupulous diagnosticians can and may usefully certify multiple causes, which have affected several parts at once, or in a series of pathological events. The Statistical Nomenclature may open the way for much of such scientific and differential accuracy, yet it is decided by the Royal College Committee to regard the chief and determining causes of death in each case as the proper and necessary ones for public registration, whatever else may be described or attested.

An absolutely perfect classification, which shall not be actually open to criticism and some reasonable objections, must be conceded to be impossible in the present incomplete and rapidly progressing state of medical, physiological and biological knowledge. The ambiguities and obscurities of the present will vanish and soon be superseded by more definite terms and clearer discrimination, as science triumphs over uncertainty in human knowledge. The present effort is intended to impart the greatest practical utility and correctness to the public records of diseases and mortality; and in pursuing this duty with all the resources of the local registrars, and the ceaseless aid of physicians and Boards of Health, the State Bureau of Vital Statistics seeks to be ever augmenting and applying ways and means for preventing suffering, and protecting health and life among the people.

This revised Nomenclature and its Classification will facilitate the duties

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of physicians in certifying, and of registry officers in registering the causes of death ; and especially will it impart to the records the precision necessary for the proper comparability and world-wide understanding of the registered diseases, injuries and conditions by which lives are terminated. Though these accepted names of the causes of death will, in numerous instances, gradually give place to more accurate ones as medical knowledge advances, they will ever be readily translated, for all useful and necessary purposes, into the future and more accurate or descriptive terms of revised Nomenclature. The considerable changes now warranted and here given in the Nomenclature of Tumors and Cancers, and of various diseases of viscera and tissues, illustrate this fact. In like manner the term "Epidemic Diarrhœa" takes the place of "Simple Cholera," and "Cholera Infantum" is superseded mostly by the terms Diarrhœa, Entero-Colitis, and Epidemic Diarrhœa, though for the present, the familiar and accurate term is allowed to remain in the list. While some of the old and indefinite names drop out of use, and soon will disappear from the printed Nomenclature of Causes of Death, new and definite terms will necessarily be added as pathological knowledge advances, and these will readily find their appropriate place in the classified list, without waiting a revision of the Nomenclature.

Not every possible Cause of Death is enumerated in this Nomenclature.—The principal Diseases and Injuries that may end fatally are so entered here as to indicate properly their anatomical relation, as well as such essential causative relations as admit of useful recognition in the registration of mortality; while merely contributing Causes are as numerous as the chief ones.

The New Classification compared with the Older. The statistical nomenclature in use by the Registrar General of England, the past forty years, and accepted since 1855, in all countries which use the English language, comprises five classes, the chief of which are the Zymotic, Constitutional and Local Causes of Death. The newly arranged Nomenclature omitting hypothetical terms comprises most of the so-called Zymotics under the head of General Diseases (Division A.) and most of the Constitutional maladies under Division B. of the General Diseases; while the Local Diseases are grouped, as accurately as practicable, in accordance with tissues and organs affected; the subordinate grouping being so arranged as to conform to essential pathological and ætiological facts. All other causes of death are classified in a plain way and under simple titles. The tabulated lists contain certain names which should be superseded by others that are more definite in the same class. The first are marked by an *. Certain names that the latest revisions would place in another class, or would be wholly superseded by other names, are marked by a †. No inconvenience will arise from such duplication of names or changes in their classification. In certain instances in which the judgment of the medical profession in our country renders it expedient not to transfer a particular name which the Royal College of Physicians' Committee has transferred to another class, or has wholly superseded, will be found indicated sufficiently by the symbols * and † in the place that such a cause of death will have in the new class. For example: Puerperal Fever is retained in the class of General Diseases,

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Div. A, though all the mere accidents of childbirth are registered in another class; and this fever is also duly recognized there, while it continues in its place among infectious fevers, thus satisfying a predominant medical opinion concerning this fever when occurring primarily, or independently of the inflammatory and septic causes enumerated under Class IV. Deference to predominant opinion and facts has replaced Syphilis in Div. A of General Diseases ("Zymotics"). On the other hand numerous names are wholly removed from the Zymotics and General Diseases, to be entered more correctly in other relations; for example,—Alcoholism, Trichinosis, Tenia, Bronchocele, etc., are so transferred.

In all these changes we find substantial practical advantage, and such are the changes in the present compact arrangement of Division A, of General Diseases, which are "Specific febrile maladies, dependent on Morbid Poisons," that in quoting the records of mortality in this one division, thus precisely defined, the Health Officer and the Statistician present a more exact and useful view of Sanitary facts than was practicable in using the term "Zymotic" as applied to three out of the four orders in that less clearly defined class of diseases. Still the convenient term "Zymotic" will continue to be used, with the limitations now accepted, and in this Nomenclature required, for as the great statesman Sir Sidney Herbert once said, "the groupings of Zymotic Diseases together, seems to facilitate the application of precautionary measures."

The Tabulated arrangement of this Statistical Nomenclature:—A Rule observed in the Registration.—As the Registry in the State Bureau of Vital Statistics and throughout the State employs the plain English names of Causes of Death when practicable, and will only use the Latin in cases that, in this Nomenclature, are more clearly expressed in the latter language, we give the English list in the first of the two columns. These two columns present on each line an identical name in English and Latin, for each cause of Death, with the design to aid Health Officers and Registry Clerks to record and report in accordance with the English. Names not enumerated in these columns should be locally registered in the terms certified, unless known to be synonymous with English words that will be unequivocal. Sanitary and statistical reasons render it desirable that in any case of importance the multiple or contributing causes of death should be certified and registered, so far as they are essential to a correct record, as explained in the supplementary memorandum following this tabulated Nomenclature. The State Board of Health of New York has provided that physicians can readily certify any such multiple causes, and the Mortality Registers in its Central Bureau of Vital Statistics publicly record them as fully as desirable, so that there shall be a true and useful account of all the essential causes which contribute to produce Death.

STATISTICAL NOMENCLATURE OF CAUSES OF DEATH.

A GENERAL VIEW.—GROUPS: CLASSES.

The Revised Nosological Nomenclature by the Committee of the College of Physicians is prefaced by a General View of certain natural and grouped

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relations of Diseases and pathological states irrespective of particular organs or parts affected. These general Divisions and Groups facilitate the description of morbid conditions when only general or pathological conditions are required to be mentioned. They do not give a basis for exact Classification of Causes of Death. They present—

First—An Enumeration of Morbid States and Processes, as such, irrespective of the Parts Affected.*

Second—A Grouped Enumeration of Diseases of the whole Body, and Diseases which may be distributed in several Parts at one Time.

Under the First are enumerated Atrophy; Hypertrophy; Hyperæmia (*a.* Active; *b.* Passive); Degeneration (*a.* Fatty; *b.* Calcareous; *c.* Fibroid; *d.* Mucous; *e.* Lardaceous, etc.); New Growth; Cyst-Formation; Tuberculosis; Mechanical Affections; Concretions; Parasitic-Invasion; Malformation; Errors of Development; Disorders of Function; together with other general or particular states, as Anæmia; Dropsy; Ulceration; Gangrene; Inflammation, etc.

Under the Second are the following Groups: Group (A).—Diseases Dependent on Morbid Poisons (Specific febrile diseases). Group (B).—Diseases Dependent on External Agents other than Morbid Poisons. Group (C).—Developmental Diseases. Group (D).—Miscellaneous or Non-Classified Diseases.

The Second division comprises Groups of disorders and injuries that have general relations which can be classified or so described as to serve statistical purposes; but the Groups and the named pathological states, as given above, are not Classes. They clearly indicate the necessity for a methodical arrangement of all Diseases and Causes of Death in convenient Classes. The two great divisions above mentioned comprise a vast number and variety of diseases and morbid states, and in the four groups (A, B, C, D) would be included even more than all the maladies that are to be found in the first two of the Statistical Classes as given below, and there entitled General Diseases.

The Classification as shown below, and followed in succeeding pages, is the basis of Statistical Nomenclature designed to facilitate the correct and most useful registry of the Causes of Death. By this means the diverse morbid states and ever varying combinations of Causes of Mortality are successfully brought into the most useful form for numerical, scientific and sanitary statements and reports. The divisions and groupings of Diseases and pathological states, as above, serve a purpose in medical science, but in the registration and uses of mortality records such divisions and groupings are superseded by the following

CLASSES OF CAUSES OF DEATH.

I. General Diseases. (*A*)
II. General Diseases. (*B*)
III. Local Diseases.
IV. Developmental Diseases.
V. Poisons.
VI. Injuries.
VII. Surgical Operations.
VIII. Human Parasites.
IX. Congenital Malformations.
X. Sudden Death—Cause unascertained.

A SYNOPSIS OF THE CHIEF SUBDIVISIONS OF THE CLASSES, AS GIVEN IN THE REVISED NOMENCLATURE.

[These Subdivisions give convenient arrangement for upwards of two thousand names of diseases and morbid states as enumerated in the latest

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edition. We do not need to repeat them in our Statistical Lists for Mortality Records, though they serve a useful purpose in the systematic records of disease as observed and studied by physicians.]

CLASS I.—*General Diseases: Division A, comprises*

SUB-GROUP 1.—Specific infectious febrile diseases, viz.: Small-pox and 21 other infectious maladies inclusive of Epidemic Diarrhœa, Cholera and Dysentery.
do. 2.—Includes Malarial Fever, of every kind, and Malarial cachexia.
do. 3.—The septic maladies, including Puerperal Fever, Erysipelas and Phagadena.
do. 4.—Syphilis, in every form, and Gonorrhœa.
do. 5.—Hydrophobia, Glanders, and Charbon or Malignant Pustule, and other contagia of the lower animals communicated to man.

CLASS II.—*General Diseases: Division B,*

Comprises Diseases dependent on external agents other than morbid poisons; also comprises 22 or more important diseases usually termed "Constitutional," including Gout and Rheumatism; also comprising the New Growths,—Malignant and Non-Malignant; together with diseases produced by certain Errors of Diet.

CLASS III.—*Local Diseases.*

SECTION 1.—Diseases of the Nervous System.
This section is divided into three sub-sections.
Sub-section 1 comprises affections of the Brain and Spinal Cord and their Membranes, and the Nerves. The different maladies enumerated, amount to nearly 100.
Sub-Section II comprises names of symptoms, and groups of symptoms of Pathological States and morbid conditions not accurately known; in which upwards of 25 maladies are enumerated.
Sub-Section III comprises the names of Mental Diseases,—15 in number,—from Hypochondriasis to Dementia.
SECTION 2.—Diseases of the Eye.
This section comprises 15 sub-sections, and upwards of 400 enumerated diseases and morbid states.
SECTION 3.—Diseases of the Ear.
This section is divided into three sub-sections, namely: those of the External, Middle and Internal Ear respectively.
SECTION 4.—Diseases of the Circulatory System.
Comprises diseases of the Heart and its membranes, and of the Blood-Vessels.
SECTION 5.—Diseases of the Respiratory System.
Comprises five sub-sections, and upwards of 100 names of diseases and morbid states; from Croup to Pneumothorax.
SECTION 6.—Diseases of the Digestive System.
This section comprises 15 sub-sections, beginning with Diseases of the Lips, and ending with Diseases of the Peritoneum.
SECTION 7.—Diseases of the Lymphatic System.
This section comprises three sub-sections, namely: the Spleen, the Lymphatics, and Thymus body, respectively, and enumerating some 40 maladies and morbid states; from Splenitis to malignant New-Growth in the Thymus body.
SECTION 8.—Diseases of the Supra-Renal Capsules.
This section comprises seven diseases or morbid states.

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SECTION 9—Diseases of the Urinary System.

This section comprises three sub-sections, namely: those of the Kidney and Ducts; of the Urine; and of the Bladder.

SECTION 10.—Diseases of the Generative System.

In this section are two general groups; (*a*) Male, (*b*) Female Organs; and these comprise 14 sub-divisions and upwards of 150 different diseases and morbid states.

SECTION 11.—Affections connected with Pregnancy.

SECTION 12.—Affections connected with Parturition.

SECTION 13.—Affections consequent on Parturition.

SECTION 14.—Disease of the Female Breast.

SECTION 15.—Diseases of the Male Mamilla.

SECTION 16.—Diseases of the Organs of Locomotion.

This section is divided into six sub-divisions, which comprise upwards of 70 diseases or morbid states.

SECTION 17.—Diseases of Connective Tissue.

SECTION 18.—Diseases of the Skin.

This comprises upwards of 60 diseases; from Erythema to Scabies.

CLASS IV.—*Developmental Diseases—Conditions not necessarily associated with General or Local Diseases.*

This section comprises Immaturity at Birth (Premature Birth), Hemorrhage from Umbilicus, Old Age, and Debility.

CLASS V.—*Poisons.*

This class is divided into 11 sub-sections, viz:

1. Metalic Poisons.
2. Caustic Alkalies.
3. Non-Metals (Metalloids).
4. Acids and Acids Salts.
5. Organic Substances.
6. Vegetable Poisons.
7. Animal Poisons.
8. Gases and Vapors.
9. Mechanical Irritants.
10. Irritant Drugs.
11. Poisoned Wounds.

CLASS VI.—*Injuries.*

This class is divided into two sections, viz:

(*a*) General injuries;
(*b*) Local Injuries.

These are sub-divided into twenty sub-sections, beginning with Burns and ending with Dislocation of Bones. Over 200 names of Injuries are enumerated.

CLASS VII.—*Surgical Operations.*

This class comprises 29 sections, and an indefinite number of Operations.

CLASS VIII.—*Human Parasites.*

Comprises three groups and seven sub-divisions, and 128 of the Parasites are enumerated.

CLASS IX.—*Congenital Malformations.*

This class comprises 18 sections and sub-sections.

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CLASS X.—*Comprises Sudden Deaths.—Causes Unascertained.*

NOTE TO REGISTRY OFFICERS.—It is desirable to have the Causes of Death publicly registered in the plainest and most definite terms, and in English, except in cases that are best expressed in Latin. The tabulated arrangement of the Nomenclature is designed to enable the certifying physician and the Registrar readily to trace out whatever terms are to be preferred. The name certified as Chief Cause of a Death should be the most accurate and expressive that can be used for the case. No inconvenience, but some advantage results from certifying registering the multiple or contributing Causes of Death, if they have an important share in the fatal event. Short and most precise names or terms should be preferred.

Health Officers will both derive and confer much benefit by carefully observing and regularly reporting all kinds of diseases which are classed in Division A of General Diseases. Sanitary reports will continue to refer to this division as the principal "Zymotic Diseases." In like manner Division B, of the General Diseases, will be correctly quoted as "Constitutional," chiefly.

Certain useful names of symptoms and results of fatal maladies will continue to be used, yet it is earnestly requested that they shall not be used vaguely or alone in Certificates of Death. Dropsy, Convulsions, Palsy, Cough, Tumor, and even Cancer, are often certified without a designation of the essential parts affected and the pathological nature of the true Cause of Death. Physicians are endeavoring to overcome this fault in Death Certificates. Not infrequently only the Mode of Death, as in certain casualties; or the symptoms, the last and fatal event in the progress of an obscure or unobserved disease; or some merely circumstantial account of a death, must be accepted by the registry officer, especially in cases that have not had competent medical attendance. This tabulated Nomenclature has sufficiently met this necessity, and the State Bureau of Vital Statistics endeavors to obtain such further information as may be practicable in the more important cases of this kind, before completing the record in the State Registers.

The State Board of Health as well as every efficient Local Board deems it highly important that a competent medical officer should carefully examine all certificates of death, as received at the registry office, as frequent intervals, and before they are engrossed in the public registers.

THE STATISTICAL NOMENCLATURE OF CAUSES OF DEATH.

In this tabulated nomenclature are enumerated the names of the principal diseases and other causes which may result in death. The names of causes that merely contribute to the correct records of death exceed the number of the chief causes; and each one may at times be necessary in a public record. Other names than these in the list may be correctly used, when necessary, to designate important causes that contribute a share to fatal results.

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EXPLANATORY.—Names with an * should be superseded by others preferred in same class; and if with a †, may be superseded by others in another class. The ‡ is affixed to names of certain essential symptoms that may occasionally stand for the cause of death.

1. GENERAL DISEASES.—A ("Zymotic").

SPECIFIC FEBRILE DISEASES.

Registry Column.	Latin Equivalent.
1. Small Pox.	Variola.
2. Varioloid.	Varioloid.
3. Varicella.	Varicella.
4. Measles.	Morbilli.
5. Rœtheln.	Rubeola.
6. Scarlet Fever.	Scarlatina.
7. Diphtheria.	Diphtheria.
8. Whooping Cough.	Pertussis.
9. Fever—Typhus.	Febris Typhus.
10. Fever—Enteric (Typhoid).	Febris Enterica.
11. Fever—Typho-Malarial.	Febris Typhomalarialis.
12. Fever—Simple Continued.	Febris Continua Simplex.
13. Fever—Malarial (mention kind).	Febris Malarialis.
(a) Intermittent.	(a) Intermittens.
(b) Remittent.	(b) Remittens.
(c) Pernicious.	(c) Perniciosa.
14. Fever—Relapsing.	Febris Recidiva.
15. Fever—Yellow.	Febris Flava.
16. Fever—Cerebro-Spinal.	Febris Cerebrospinalis.
17. Cholera, Asiatic.	Cholera Asiatica.
18. Cholera, Simple (Epidemic Diarrhœa.)	Cholera Simplex.
19. Diarrhœa (specify if epidemic, cholera infantum, cholera morbus, etc.)	Diarrhea.
20. Cholera Infantum. (See Diarrhœa and Entero-Colitis.)	Cholera Infantum.
21. Entero-Colitis.	Enterocolitis.
22. Dysentery.	Dysentoria.
23. Influenza.	Catarrhus Epidemicus.
24. Mumps.	Parotides.
25. Hydrophobia.	Hydrophobia.
26. Glanders.	Equinia.
27. Malignant Pustule.	Pustula Maligna.
28. Erysipelas (including Necusia).	Erysipelas (Necusia).
29. Pyæmia.	Pyæmia.
30. Septicæmia.	Septicæmia.
31. Puerperal Fever. (Class III.)	Febris Puerperarum.
32. Phagedena.	Phagedæna.
33. Hospital Gangrene.	Gangræna Nosocomiorum.
34. Syphilis (mention stage).	Syphilis.

II. GENERAL DISEASES.—B ("CONSTITUTIONAL").

35. Rheumatism, Acute.	Rheumatismus Acutus.
36. Rheumatism, Chronic.	Rheumatismus, Longus.
37. Rheumatism, Muscular.	Rheumatismus, Musculorum.
38. Rheumatism, Synovial.	Rheumatismus, Synovialis.

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Registry Column.	Latin Equivalent.
39. Rheumatism of Heart.	Rheumatismus Cordis.
40. Gout, Acute.	Podagra Acuta.
41. Gout, Chronic.	Podagra Longa.
42. Gout, Synovial.	Inflammatio Synovipodagrica.
43. Tumor, Fibrous.	Tumor Fibrosus.
44. Tumor, Fatty.	Tumor Adiposus.
45. Tumor, Mucous.	Tumor Mucosus.
46. Tumor, Cartilaginous.	Tumor Cartilaginosus.
47. Tumor, Bony.	Tumor Osseus.
48. Tumor, Myoma.	Myoma.
49. Tumor, Neuroma.	Neuroma.
50. Tumor, Adenoma.	Adenoma.
51. Tumor, Angeioma.	Tumor Vasculosus.
52. Tumor, Glioma.	Glioma.
53. Lupus, } See Integumentary System.	Lupus.
54. Leprosy, } See Integumentary System.	Lepra.
55. Yaws, } See Integumentary System.	Morula.
56. Sarcoma (mention kind).	Sarcoma.
57. Cancer, Epithelial (Rodent Ulcer).	Carcinoma Epitheliosum.
58. Cancer, Scirrhus.	Scirrhus.
59. Cancer, Medullary.	Carcinoma Medullosum.
60. Cancer, Melanotic.	Carcinoma Nigrum.
61. Cancer, Osteoid.	Carcinoma Ostoides.
62. Cancer, Colloid.	Morbus Colloides.
63. Cancer, Adenoid (Cylindroid).	Carcinoma Adenoides.
64. Scrofula.	Struma.
65. Tabes-Mesenterica.	Tabes Mesenterica.
66. Rachitis.	Rachitis.
67. Purpura.	Purpura.
68. Scurvy.	Scorbutus.
69. Anæmia.	Anæmia.
70. Chlorosis	Chlorosis.
71. Pernicious Anæmia.	Anæmia Idiopathica.
72. Leucocythæmia.	Leucocythæmia.
73. Hæmophilia.	Hæmophilia.
74. Diabetes Mellitus (Glycosuria).	Diabetes Mellitus.

III. LOCAL DISEASES.—(Diseases of Special Parts.)

NERVOUS SYSTEM.

75. Chronic Hydrocephalus.	Hydrocephalus longus.
76. Meningitis.	Meningitis.
77. Cerebro-Spinal Meningitis (not Cerebro-Spinal Fever).	Meningitis Cerebrospinalis.
78. Encephalitis.	Cerebri Inflammatio.
79. Spinal Meningitis.	Meningitis Spinalis.
80. Myelitis.	Myelitis.
81. Abscess of Brain.	Cerebri Abscessus.
82. Softening of the Brain (and Cord.)	Cerebrum Fluidum.
83. Sclerosis (of ———).	Sclerosis.
84. Locomotor Ataxia.	Ataxia Motus.
85. Progressive Muscular Atrophy.	Atrophia Ingravescens Musculorum.
86. Atrophy of the Brain.	Atrophia Cerebri.
87. Atrophy of Spinal Cord.	Atrophia Spinalis.
88. Apoplexy.	Apoplexia.

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Registry Column.	Latin Equivalent.
89. Paralysis (of ———).	Paralysis.
90. Hemiplegia.‡	Hemiplegia.
91. Paraplegia.‡	Paraplegia.
92. Bulbar Paralysis.	Paralysis Glosso-labio-pharyngea.
93. Convulsions‡ (state cause).	Eclampsia.
94. Laryngismus Stridulus‡ (Spasmodic Croup).	Laryngismus Stridulus.
95. Tetanus.	Tetanus.
96. Trismus Nascentium.	Trismus neonatorum.
97. Neuralgia‡ (mention the part affected, as sciatic).	Neuralgia.
98. Vertigo (Auditory—Meniere's Disease).	Vertigo.
99. Chorea.	Chorea.
100. Hysteria.	Hysteria.
101. Epilepsy.	Epilepsia.
102. Insanity (not described under special forms).	Alienatio Mentis.
103. Mania (mention kind).	Mania.
104. Melancholia.	Melancholia.
105. Dementia.	Dementia.
106. General Paralysis (Paresis).	Paralysis ex toto (Paralysis Insanorum).
107. Toxic Insanity. (Class V.)	Insipientia Toxica.

EYE, EAR AND NOSE.

108. Conjunctivitis ("Opthalmia").	Conjunctivæ Inflammatio.
109. Iritis.	Iritis.
110. Choroiditis.	Choroiditis.
111. Abscess of the Orbit.	Orbitæ Abscessus.
112. Malignant Tumor of Eye (not certified).	Tumor Malignus Oculi.
113. Glaucoma.	Glaucoma.
114. Cataract.	Cataracta.
115. Otitis (mention what part of the Ear).	Otitis.
116. Tumor in Ear (describe kind).	Tumor Auris.
117. Necrosis of Bone of or about the Ear.	Ossis Petrosi, etc., Necrosis.
118. Hæmatoma of Auricle.	Auris Hæmatoma.
119. Epistaxis.‡	Epistaxis.

CIRCULATORY SYSTEM.

120. Pericarditis.	Pericarditis.
121. Endocarditis.	Endocarditis.
122. Myocarditis.	Myocarditis.
123. Hæmopericardium.	Hæmopericardium.
124. Hydropericardium.	Hydropericardium.
125. Pneumopericardium.	Pneumopericardium.
126. Valvular Disease of Heart (mention what valves, and variety of disease).	Morbi Cordis Valvarum.
127. Heart Clots.	Cordis Coagula.
128. Atrophy of Heart.	Atrophia Cordis.
129. Hypertrophy of Heart.	Hypertrophia Cordis.
130. Fatty Degeneration of Heart.	Degeneratio Cordis Adiposa.

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Registry Column.	Latin Equivalent.
131. Disease of Coronary Arteries.	Arteriarum Coronariarum Morbus.
132. Dilatation of Heart— (of left side ——, of right side ——).	Dilatatio Cordis. lateralis sinistri. lateralis dextri.
133. Aneurysm of Heart.	Aneurysma Cordis.
134. Rupture of —— of Heart‡ (mention locality of).	Diruptio Cordis.
135. Malformation of Heart. (See Class IX.)	Deformitates Ingenitæ Cordis.
136. Angina Pectoris.‡	Angina Pectoris.
137. Syncope.‡	Animæ Defectio.
138. Cyanosis.‡	Cyanosis.
139. Atheroma (of ——).	Atheroma.
140. Aneurysm of Aorta.	Aneurysma Aortæ.
141. Aneurysm of —— Artery.	Aneurysma.
142. Cirsoid Aneurysm.	Aneurysma Cirsoides.
143. Arteritis.	Arteritis.
144. Phlebitis (Phlegmasia Dolens).†	Phlebitis (Phlegmasia dolens).
145. Embolus (of ——).	Embolus.
146. Thrombus (of ——).	Thrombus.
147. Varix (of ——).	Varix.
148. Rupture (of —— Blood-vessel).‡	Diruptio ——.

LYMPHATIC SYSTEM AND DUCTLESS GLANDS.

149. Splenitis.	Splenitis.
150. Pyæmic Abscess of Spleen.	Abscessus pyæmica Lienis.
151. Congestion of Spleen (Hypertrophy, "Ague Cake").	Congestio Lienis.
152. Lardaceous Spleen.	Lien Lardaceus.
153. Cyst of Spleen.	Cystis Lienis.
154. Rupture of Spleen.	Diruptio Lienis.
155 Inflammation and Suppuration of Lymph Vessels and Glands.	Inflammatio Vasorum et Glandularum Lymphiferorum.
156. Lymphadenoma (Hodgkin's disease).	Lymphadenoma.
157. Obstruction of Thoracic Duct.	Ductus Thoracis Obstructus.
158. Lymphatic Fistula.	Fistula Lymphalis.
159. Hypertrophy of Thymus Gland.	Hypertrophiæ Glandulæ Thymi.
160. Inflammation of the Thyroid.	Inflammatio Glandulæ Thyroidis.
161. Goitre.	Bronchocele.
162. Exophthalmic Goitre (Graves' or Basedow's disease).	Bronchocele Exophthalmica.
163. Addison's Disease.	Morbus Addisoni.

RESPIRATORY SYSTEM.

164. Croup.	Angina Trachealis.
165. Œdema of Glottis.	Glottidis Œdema.
166. Spasm of Glottis.	Glottidis Spasmus.
167. Laryngitis.	Laryngitis.
168. Bronchitis.	Bronchitis.
169. Pleurisy.	Pleuritis.
170. Diaphragmitis.	Diaphragmitis.
171. Hydrothorax.‡	Hydrothorax.
172. Pneumothorax.‡	Pneumothorax.
173. Empyæma.‡	Empyæma.

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Registry Column.	Latin Equivalent.
174. Pneumonia—(*a*) Lobar (Croupous) (Pleuro-Pneumonia)	Pneumonia (*a*) Lobaris.
175. Pneumonia—(*b*) Lobular (Catarrhal).	" (*b*) Lobularis.
176. Phthisis Pulmonalis (variety not specified).	Phthisis Pulmonalis.
177. Acute Pneumonic Phthisis.	Phthisis Pneumonica Acuta.
178. Chronic Pneumonic Phthisis.	" " Longa.
179. Cirrhosis of Lungs (Fibroid Phthisis).	Cirrhosis Pulmonum (Phthisis Fibroides).
180. Congestion of Lungs (passive or hypostatic).	Congestio Pulmonum Passiva.
181. Hemorrhage of Lungs.	Hæmoptysis.
182. Œdema of Lungs‡	Œdema Pulmonum.
183. Abscess of Lungs.	Abscessus Pulmonum.
184. Gangrene of Lungs.	Gangræna Pulmonum.
185. Emphysema.	Emphysema.
186. Atelectasis Pulmonum.	Explicatio Imperfecta Pulmonum.
187. Asthma ‡	Asthma.

DIGESTIVE SYSTEM.

188. Stomatitis.	Stomatitis.
189. Aphthous Stomatitis† (Sprue, Thrush see Class VIII)	Aphthæ.
190. Gangrene of Mouth (Noma).	Oris Gangræna.
191. Necrosis of ——— Bones (from phosphorus or —).	Necrosis.
192. Abscess of Antrum.	Antri Abscessus.
193. Dentition.	Dentitio.
194. Ranula.	Ranula.
195. Glossitis.	Glossitis.
196. Tonsilitis (Quinsy, Putrid Sore Throat, etc).	Inflammatio Tonsillarum.
197. Pharyngitis.	Pharyngitis.
198. Post-Pharyngeal Abscess. (See Organs of Locomotion.)	Post-Pharyngem Abscessus.
199. Dilatation of Œsophagus (including Divesticula).	Dilatio Pharyngis.
200. Gastritis.	Gastritis.
201. Hæmatemesis.‡	Hæmatemesis.
202. Ulcer of Stomach.	Ulcus Ventriculi.
203. " " Perforating.	Ventriculus Perforatus.
204. Dyspepsia.‡	Dyspepsia.
205. Gastrodynia.‡	Gastrodynia.
206. Vomiting.‡	Vomitus.
207. Hemorrhage from Intestines‡ (including Melæna).	Hæmorrhagia Intestini.
208. Enteritis (state cause).	Enteritis.
209. Ulcer of Intestines.	Ulcus Intestini.
210. Perforation of Intestines.	Intestina Perforata.
211. Obstruction of Intestine‡ (state cause).	Obstructio Intesti.
212. Typhlitis.	Inflammatio Cæci Intestini.
213. Perityphlitis.	Perityphlitis.
214. Perforation of Vermiform Appendix.	Appendix Vermiformis Perforata.
215. Intussusception.	Intestina in se suscepta.

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Registry Column.	Latin Equivalent.
216. Stricture of Intestines.	Strictura Intestini.
217. Strangulation.‡	Strangulatio Intestini.
218. Hernia (state variety and condition).	Hernia.
219. Hemorrhoids.	Hemorrhoides.
220. Fistula of Anus.	Fistula in Ano.
221. Hepatitis.	Hepatitis.
222. Cirrhosis of Liver.	Cirrhosis.
223. Abcess of Liver.	Abscessus Jecoris.
224. Hypertrophy of Liver.	Hypertrophia Jecoris.
225. Atrophy of Liver.	Atrophia Jecoris.
226. Fatty Liver.	Jecur Adiposum.
227. Lardaceous Liver.	" Lardaceum.
228. Cysts of Liver.	Cystis Jecoris.
229. Jaundice.‡	Icterus.
230. Inflammation of Gall Bladder and Hepatic Ducts.	Inflammatio Vesiculæ Fellis et Ductuum Jecoris.
231. Ulcer of Gall Bladder.	Ulcus Vesicalæ Fellis.
223. Gallstones (Biliary Colic).	Transitus per Ductus Calculorum Felleorum.
233. Abscess of Pancreas.	Abscessus Pancreatis.
234. Other diseases of Pancreas (mention by name).	
235. Peritonitis.	Peritonitis.
236. Ascites.‡	Ascites.

URINARY SYSTEM.

237. Acute Nephritis.	Nephritis acuta.
238. Nephria (including Bright's and other structural diseases of Kidneys).	Nephria (Morbus Brightii).
239. Suppurative Nephritis.	Nephritis Suppurans.
240. Pyelitis.	Pyelitis.
241. Hydronephrosis.	Renum Hydrops.
242. Cysts of Kidney.	Renum Cystes.
243. Lardaceous Kidney.	Renes Lardacei.
244. Movable Kidney.	" Mobiles.
245. Calculus of Ureters (Nephritic Colic).‡	Calculi per Ureteres Descensus.
246. Albuminuria.*‡	Albuminuria.
247. Hæmaturia.‡	Hæmaturia.
248. Suppression of Urine.‡	Urina Suppressa.
249. Diabetes Insipidus.	Diabetes Insipidus.
250. Cystitis.	Cystitis.
251. Vesico-Intestinal Fistula	Fistula Vesicam inter et Intestina.
252. Calculus of Bladder.	Calculus Vesicæ.
252. Rupture of Bladder.‡	Vesica Rupta.
254. Paralysis of Bladder.‡	Paralysis Vesicæ.
255. Retention of Urine.	Urinæ Retentio.

GENERATIVE SYSTEM (MALE).

256. Urethritis.	Inflammatio Itineris Urinæ.
257. Stricture of Urethra (specifying cause if known).	Strictura Itineris Urinæ.
258. Urinary Fistula.	Fistula Urinalis.
259. Extravasation of Urine.‡	Urinæ Suffusio.

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Registry Column.	Latin Equivalent.
260. Impacted Calculus in Urethra.	Calculus Inherens.
261. Prostatitis.	Inflammatio Glandulæ Prostatæ.
262. Hypertrophy of Prostate.	Hypertrophia Glandulæ Prostatæ.
263. Hydrocele.	Hydrocele.
264. Varicocele.	Cirsocele.
265. Hæmatocele.	Hæmatocele.
266. Epididymitis.	Epididymitis.
267. Orchitis.	Orchitis.

GENERATIVE SYSTEM (FEMALE.)

268. Inflammation of Uterus.	Metritis.
269. Metro Peritonitis (Pelvic Peritonitis).	Peritonitis Pelvica.
270. Pelvic Cellulitis.	Phlegmone Pelvica.
271. Pelvic Hæmatocele.	Hæmatocele Circumuterina.
272, Hypertrophy of Uterus.	Hypertrophia Uteri.
273. Displacement and Distortion of Uterus.	Uterus Loco Motus et Distortus,
274. Fibroid Tumor of Uterus, Polypus, etc. (Class II).	Tumor Fibrosus Uteri.
275. Amenorrhœa.‡	Amenorrhœa.
276. Dysmenorrhœa.‡	Menstrua Difficilia.
277. Menorrhagia.‡	" Immodica.
278. Metrorrhagia.‡	Metrorrhagia.
279. Inflammation of Ovary.	Inflammatio Ovarii.
280. Ovarian Cyst.	Cystis Ovarii.
281. Ovarian Hernia.	Hernia Ovarii.
282. Ovarian Displacement.	Ovarium Loco Motum.
283. Fallopian Inflammation	Salpingitis.
(" Abscess).	(Abscessus Tubi Fallopiani).
284. Vaginitis.	Vaginitis.
285. Vaginal Fistula.	Fistula in Vagina.
286. Occlusion of Vagina (Imperforate Hymen)	Vagina Occlusa.
287. Thrombus Vulvæ (Hæmatoma).	Thrombus Vulvæ.

AFFECTIONS CONNECTED WITH PREGNANCY AND CHILD-BIRTH.

288. Abortion.	Abortus.
289. Premature Labor.	Partus Intempestivus.
290. Still-birth.	Partus Emortuus.
291. Extra-Uterine Gestation (specify kind,—as Tubal, etc.).	Fœtus extra Uterum Gestatus.
292. Mechanical Obstacles to Expulsion of Fœtus (specify nature on part of mother or of child).	Impedimenta Corporea Partui Obstantia.
293. Rupture of Uterus.	Uteri Diruptio.
294. Inversion of the Uterus.	Uterus Inversus.
295. Retention of Placenta	Secundarum Retentio.
266. Hemorrhage.	Hæmorrhagia.
(a) Placenta Previa.	(a) Secundis præviis.
(b) Accidental.	(b) Fortuita.
297. Post-Partum Hemorrhage.	Hæmorrhagia post Partum.
298. Milk Fever.	Lactantium Febris.
299. Abscess of the Breast.	Mammæ Fœminæ Abscessus.
300. Puerperal Pelvic Cellulitis.	Puerperarum Phlegmone Pelvica.
301. Pelvic and Illiac Abscess.	Ilionum et Pelvis Abscessus.

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Registry Column.	Latin Equivalent.
302. Puerperal Metritis.	Puerperarum Metritis.
303. " Peritonitis.	" Peritonitis.
304. " Metro-Peritonitis.	" Metroperitonitis.
305. " Lymphangitis.	" Lymphangitis.
306. " Pyæmia.	" Pyæmia.
307. " Septicæmia.	" Septicæmia.
308. " Fever [Metria] [2] (see Class I).	" Febris.
309. " Phlebitis.	" Phlebitis.
310. (Phlegmasia Dolens).	Phlegmasia Dolens.
311. Puerperal Convulsions.	Puerperarum Eclampsia.
312. " Insanity.	" Mania.
313. Sudden Death after Delivery. [3]	Mors Repentina post Partum.

ORGANS OF LOCOMOTION.

314. Ostitis.	Ostitis.
315. Periostitis.	Periostitis.
316. Osteo-Myelitis.	Osteomyelitis.
317. Caries.	Caries.
318. Necrosis.	Necrosis.
319. Mollities Ossium,	Ossium Mollities.
320. Rachitis.†	Rachitis.
321. Synovitis (state if Arthritic).	Inflammatio Synovalis.
322. Degeneration of Cartilage and Articular Surfaces.	Cartilaginis et Summorum Ossium Articularium Degeneratio.
323. Psoas Abscess (Lumbar, and others of Spine)	Abscessus Psoadici (lumbares alique).
324. Caries and Necrosis of Spine.	Caries et Necrosis Spinæ.
325. Angular Curvature of Spine (Pott's Disease).	Deformitas Angularis Spinæ.
326. Atrophy (mention part).	Atrophia.
327. Fatty Degeneration of Muscle.	Musculorum Degeneratio Adiposa.
328. Inflammation of Cellular Tissue (Cellulitis).	Inflammatio Membranæ Cellulosæ.
329. Phlegmon.	Erysipelas Phlegmonodes.
330. Slough (mention the part).	Sphacelus.
331. Herpes Zoster.	Herpes Zoster.
332. Lichen.	Lichen.
333. Prurigo.	Prurigo.
334. Pemphigus.	Pompholix.

[1] Not to be publicly registered as a Death or a Birth. Its records are separately preserved. The name Still-birth is applicable only to an infant that never breathed.

[2] This nosological term, in which is frequently included one, several, or all of the foregoing six pathological conditions, is retained among the specific febrile affections or infectious diseases, for the present. *Metria* is an accepted and appropiate name to be employed in any certificate and registry of a fatal puerperal disease which so comprises several of these enumerated pathological conditions that no one or two of them should be charged with causing the death. *Metria* is, under such circumstances, a most correct name for the record of the cause of death; as it also is for simple Puerperal Fever.

[3] State known cause, such as Shock, Entrance of Air into Uterine Veins, Thrombosis, Embolism, etc.

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Registry Column.	Latin Equivalent.
335. Impetigo.	Impetigo.
336. Ecthyma.	Ecthyma.
337. Eczema.	Eczema.
338. Dermatitis (from Burn, Poison, or Wound).	Dermatitis (Calorica, Venenata, vel Traumatica).
339. Pityriasis Rubra.	Pityriasis Rubra.
340. Furuncle (Boil).	Furunculus.
341. Carbuncle (Anthrax).	Carbunculus.
342. Ulcer.	Ulcus.
343. Scleroderma.	Scleroderma.
344. Elephantiasis Arabum.	Elephantiasis Arabum.
345. Dermatolysis.	Dermatolysis.
346. Keloid.	Keloid.
347. Lupus. (See General Diseases, B.)	Lupus.
348. Leprosy. (See General Diseases, B.)	Lepra.
349. Yaws. (See General Diseases, B.)	Morula.
350. Sarcoma Cutis. (See General Diseases, B.)	Sarcoma Cutis.
351. Carcinoma Cutis. (See General Diseases, B.)	Carcinoma Cutis.
352. Scrophuloderma. (See General Diseases, B.)	Scrofuloderma.
353. Rhinoscleroma. (See General Diseases, B.)	Rhinoscleroma.

IV. DEVELOPMENTAL DISEASES.

354. Immaturity at Birth (Premature Birth). [1]	Partus Intempestivus.
355. Hemorrhage from Umbilicus.	Hæmorrhagia Umbilica.
356. Old age.	Senectus.
357. Debility. (and others, as certified).	Imbecillitas.

V. POISONS. [1]

BY METALLIC POISONS.

358. Arsenic.	Arsenicum.
359. Mercury.	Hydrargyrum.
360. Antimony.	Antimonium.
361. Copper (salts).	Sales Cupri.
362. Chromium (salts).	" Chromii.
363. Zinc (salts).	" Zinci.
364. Lead (Lead Colic, Palsy).	Plumbum.
365. Silver.	Argentum.
366. Iron.	Ferrum.
367. Bismuth.	Bismuthum.

BY CAUSTIC ALKALIES AND ALKALINE SALTS.

368. Ammonia (salts).	Sales-Ammonia.
369. Potash (salts).	" Potassæ.
370. Soda (salts).	" Sodæ.
371. Lime.	Calx.

[1] No. 290, (Still-birth,) applies to an infant *dead-born*, 354 (Immaturity at birth,) applies only to an infant, however premature, that has breathed.

[2] Whatever the poison used, specify the kind, and state if suicidal. Other poisons than those in this list will be occasionally employed, and must be specified in Death Certificates.

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Registry Column.	Latin Equivalent.
BY METALLOIDS.	
372. Bromine.	Bromum.
373. Iodine.	Iodum.
374. Phosphorus.	Phosphorus.
BY ACIDS.	
375. Nitric.	Acidum Nitricum.
376. Sulphuric.	" Sulphuricum.
377. Muriatic.	" Hydrochloricum.
378. Phosphoric.	" Phosphoricum.
379. Oxalic.	" Oxalicum.
380. Tartaric.	" Tartaricum.
BY ORGANIC SUBSTANCES.	
381. Alcohol (Alcoholism, Intemperance, Delirium Tremens). [1]	Alcohol.
382. Aniline.	Anilina.
383. Carbolic Acid.	Acidum Carbolicum.
384. Chloral-Hydrate.	Chloralum Hydratum.
385. Hydrocyanic Acid (Prussic Acid).	Chloralum Hydrocyanicum.
386. Nitro-Glycerine.	Nitroglycerine.

(Any other organic substance, *e. g.* Turpentine, Petroleum, Benzine, etc., will be certified by the common name when it causes death.)

BY VEGETABLE POISONS.	
387. Opium.	Opium.
388. Aconite.	Aconitum.
389. Belladonna.	Belladonna.
390. Stramonium.	Stramonium.
391. Digitalis.	Digitalis.
392. Lobelia.	Lobelia Inflata.
393. Elaterium.	Elaterium.
394. Jaborandi.	Jaborandi.
395. Ergot.	Ergota.
396. Tobacco.	Tabacum.
397. Nux Vomica (or Strychnia).	Nux Vomica (Strychnia).
398. Poisonous Fungi	Fungi Venenati.

(and others, as certified, *e. g.* Absinth, Camphor, Hyoscyamus, Conium, Savin and Woorara).

BY ANIMAL POISONS.	
399. Spanish Fly.	Cantharis.
400. Diseased and Poisonous Meat.	Caro Morbida.
401. Poisonous Fish.	Pisces Venenosi.
402. Poisonous Milk.	Lac Venenosum.
403. Poisonous Cheese.	Caseus Venenosus.

(and others, as certified).

BY GASEOUS POISONS.	
404. Coal Gas.	Carbonis Vapor.
405. Carbonic oxide.	Oxidum Carbonicum.
406. Chloroform.	Chloroformi Vapor.
407. Ether and other Anæsthetics.	Ætheris Vapor.

[1] These three causes of death, though literally *injuries*, are naturally classed among results of Errors of Diet, under Division B of Class II.

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Registry Column.	Latin Equivalent.
408. Ammonia.	Ammonia.
409. Chlorine.	Chlorum.
410. Noxious Effluvia.	Exhalationes Noxiæ.
411. Sulphide of Ammonium	Ammonia Sulphurata.

(and others, as certified, *e. g.* Carbonic Acid, Cyanogen, Nitric Vapors, Arseniuretted Hydrogen, Gasoline and other Petroleum Vapors, etc.).

POISONED WOUNDS.

412. By Venomous Animals (Snakes, Stinging Insects, etc.).	Ex Animalibus Venenatis.
413. By dead Animal Matter.	Ex Animalium Mortuorum.

(and others, *e. g.* by morbid secretions, by vegetable and mineral substances, as certified).

VI. INJURIES.[1]

GENERAL INJURIES.

414. Burns and Scalds.[1]	Ambusta.
415. Effects of Cold.	Incommoda ex Frigore.
416. Suffocation (by ——).	Asphyxia.
417. Drowning (Accidental).	Demersio.
418. Lightning Stroke.	Fulminis Ictus.
419. Electrical Shock (from ——).	Impetus Electricus.
420. Sunstroke (including heat-stroke).	Insolatio (Solis Ictus).
421. Killed by Vehicles in the Street[1] (causing ——).	
422. Killed by Railroad Accidents.	
423. Effects of excessive exertion and strain.[3]	Nimii nisus et intentionis effectus.
424. Killed by explosion[1] of —.	
425. Surfeit [2]	Acrasia, sive cibi nimietas.
426. Starvation.[2]	Fames.
427. Want of Breast Milk.	
428. Exposure (to ——).	Expositio.
429. Neglect.[1]	Incuria.
430. Fractures and Contusions[1] (mention part).	Fractura et Contusum.
431. Chemical injury[1] (by ——).	Injuriæ Chemicæ.
432. Foreign Bodies (in ——).	Corpora Adventitia.
433. Wound[1] (of ——).	Vulnus.
434. Gunshot (in and by ——).	Vulnus ex Tormentorum Pilis.
435. Rupture[1] (of ——).	Diruptio ——.
436. Dislocation (of —— mention joint and kind).	Loco Motu Ossa.
437. Suicide (by ——).	Suicidum.
438. Suicide (by Drowning).	Suicidum Demersorum.

[1]Whatever the mode of injury, mention the parts fatally injured, and specify the agent or instrument.

[2]These three causes of death, though literally *injuries*, are naturally classed among Results of Errors of Diet, under Division B of Class II.

[3]This kind of *injury* may so affect the Muscular and Circulatory Systems, or the Brain and Nervous System, that one or all of them will be the part or parts which fatally suffer. Even Mental and Emotional Strain may act fatally by effects produced on the Nervous and Circulatory Systems.

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Registry Column.	Latin Equivalent.
439. Suicide (by Poison by —).	Suicidum ex Veneno.
440. Homicide (by ———).	Homicidum.
441. Execution (Hanging).	Supplicium legale.

(Others may be certified, such as Multiple Injury, Privation, Exhaustion and Shock, which should be explained as certified.)

VII. SURGICAL OPERATION.

442. Paracentisis of ——.	Paracentisis.
443. Artificial Delivery (Craniotomy).	Opera Obstetrica (Craniotomia).
444. Ovariotomy.	Ovarii Exsectio.
445. Amputation (of ———).	Amputatio.
446. Ligature of Arteries.	Ligatura Arteriarum.
447. Lithotomy.	Lithotomia.
448. Tracheotomy.	Tracheotomia.
449. Removal of Tumor (from ——).	Detractio Tumorum.
450. Urethotomy.	Urethrotomia.
451. Abdominal Section (for ——), (and others, as certified).	Sectio Abdominis.

VIII. HUMAN PARASITES.

452. Tænia.	Tænia.
453. Ascarus Lumbricoides.	Ascarus Lumbricoides.
454. Echinococcus (Hydatid).	Echinoccocus.
455. Trichina Spiralis. (Trichinosis).	Trichina Spiralis. (Trichinosis).

(And others, as certified. The Oideum Albicans in Thrush and the Achorion Schonleini in Favus are examples of fungous parasites).

IX. CONGENITAL MALFORMATIONS.

[It is justifiable for the *name of this class* to be registered as the Cause of Death, yet the Medical Certificate should define the malformation in accordance with this list. It is also justifiable for the physician to certify in words, *Preter-natural Birth*, when the *malformation* causes the death of the child, or the death of the mother. The register should, when proper, record what are the parts malformed. It is always justifiable to make these specific descriptions, in Latin, as below.]

456. Head absent or rudimentary.	Caput aut nullum aut rude.
457. Brain absent or incompletely developed.	Cerebrum defectum vel minus absolutum.
458. Spinal cord absent or imperfect.	Medulla Spinæ aut nulla aut inchoata.
459. Heart deficient or imperfectly developed.	Cor defectum vel imperfectum.
460. Cardiac valves imperfect.	Cordis Valvæ imperfectæ.
461. Foramen ovale persistent, or prematurely closed.	Foramen ovale a partu patens, aut præmature clausum.
462. Ductus arteriosus pervious, or prematurely closed.	Ductus arteriosus a partu pervius, aut præmature clausus.
463. Lung absent.	Pulmonum Defectio.
464. Larynx and trachea absent or imperfect.	Larynx et Trachea aut nulla aut inchoata.
465. Œsophagus impervious.	Œsophagus impervius.

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Registry Column.	Latin Equivalent.
466. Intestine impervious or deficient.	Intestina impervia vel deficientia.
467. Anus imperforate.	Anus impervius.
468. Biliary ducts impervious.	Ductus Jecoris impervii.
469. Kidneys absent.	Defectio Renum.
470. Ureters absent or impervious.	Ureteres aut nulli aut impervii.
471. Urachus persistent.	Urachus perstans.
472. Uterus or vagina absent.	Defectio Uteri vel Vaginæ.
473. Fissure of abdominal walls (including hypospadia).	Fissura Abdominis.
474. Spina bifida,	Spina bifida.
(And others, as certified).	

X. SUDDEN DEATH:—CAUSE UNASCERTAINED.

475. [Register and report under the *name of this class;* also add the essential facts as given in Coroner's or Medical Return.]

CONCERNING THE NOMENCLATURE OF DISEASES AND OTHER MORBID STATES THAT DO NOT CAUSE OR DIRECTLY CONTRIBUTE TO MORTALITY.

It is highly important that in hospitals and infirmaries, and in the scientific records of Medical and Surgical Practice, there should be not only a good degree of uniformity and comparability, but such studied precision in the use of nosological terms as will impart a permanent and high value to all records of medical and surgical observation and experience. The revised Nomenclature of the Royal College of Physicians will promote this result; therefore the volume should be accessible to every medical institution. It contains nearly five times as many names as this Statistical Nomenclature, which is derived from, and in harmony with it.

The foregoing tabulated lists present the Statistical Nomenclature of the Causes of Death, so selected and arranged as to promote the desired accuracy and uniformity in certifying and registering them. The objects in view will be attained just so far as these lists facilitate the duties of the Physician in certifying, and the Registry Officer in correctly registering, the Causes of Mortality, while inducing such precision in the identification and records of human maladies, as shall increase our knowledge and control of them.

NOTE UPON THE LIMITATIONS AND USES OF EXACT CLASSIFICATION AS VIEWED ÆTIOLOGICALLY AND PATHOLOGICALLY, AND FOR PRACTICAL PURPOSES.

The Statistical Nomenclature in use in our country and England the past forty years, which was based upon mixed conceptions of modes and agencies of causation and of pathological and anatomical results, having proved how impossible it is to avoid confusion and error in giving names to a great number of the causes of mortality, we need to notice in using the present reformed Nomenclature that the classification and names of Causes of Death are to be held with a flexible regard to broadest views and latest advances of knowledge of the causation, progress and consequences of Pathological Processes and Morbid Conditions. The Royal College of Physi-

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cians' Committee on the revision now about to be published, remark concerning the Four Groups of Causes, preceding the tabulated Nomenclature, that

"Group A contains six sub-groups. The first and most typical comprehends the Exanthemata, with other specific febrile diseases, closely resembling them; the second embraces four Diarrhœal diseases; the third Malarial fevers; the fourth Febrile diseases communicable from animals to man; the fifth Venereal diseases; the sixth Septic diseases.

"Group B contains four sub-groups of diseases produced by parasites, poisons, injuries, and errors of diet respectively.

"Group C is not subdivided.

"In Group D lines are used to indicate *alliances*, or *isolation*."

That committee goes on to say, "In effect we are bound to confess that the description of Group A, for example, does not accurately cover all the contents. The description rather applies to some names which are type-forms—centres of a system—the rest are gathered round these in many degrees of nearness and distance; in many cases their retention in this system being justified only by their being nearer to its centre than to the centre of any other. * * * * *

"The section thus formed and constituted does not include many morbid states or processes which are often found existing in several parts of the body at one time. We may cite *Inflammation* as such a one. Under the system by which one nominal return records each death, a case in which several parts have been affected by inflammation,—by way of example, being, pleura and pericardium,—will, if it prove fatal, appear as a case of inflammation of only one of those parts—will appear as pneumonia or pleuro-pneumonia or pleuritis, or pericarditis, according to the apparently predominant share taken by any of the inflammations in causing the death. If *Inflammation* were added to the list of what we may call for brevity's sake 'General Diseases,' and the return were to be made under that head, the information conveyed would still be imperfect, and vagueness in returns would be fostered. But in hospital reports it is most desirable that the exact distribution of multiple inflammations should be recorded. We have, therefore, prepared an addition table of 'Morbid States and Processes, as such.'"

"AN ENUMERATION OF MORBID STATES AND PROCESSES, AS SUCH, IRRESPECTIVE OF THE PART OR PARTS AFFECTED.

Hypertrophy.
Atrophy.
Hyperæmia.
  a. Active.
  b. Passive.
Hemorrhage.
Anæmia.
Dropsy.
Inflammation.
  Serous effusion.
  Plastic effusion.

Degeneration.
  a. Fatty.
  b. Calcareous.
  c. Fibroid.
  d. Mucous.
  e. Colloid.
  f. Lardaceous.
New Growth.
Cyst-formation.
Tuberculosis.
Foreign Bodies.

  e. Compression.
  f. Plugging (impaction.)
  g. Perforation.
  h. Laceration.
  i. Rupture.
  j. Fracture.
Concretion.
Calculus.
Coagulum.
Errors of Development,

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Inflammation.	Wounds.	Malformation.
Suppuration.	Mechanical affections.	Disorders of Function.
	a. Displacement (dislocation.)	*a.* Excess.
Ulceration (caries).	*b.* Dilatation.	*b.* Defect.
Gangrene (necrosis).	*c.* Contraction.	*c.* Perversion.
Cicatrisation.	*d.* Stricture.	Parasitic invasion."

From this list of mere names of *morbid states and pathological processes* the fact is obvious that they would fail to meet the most essential question which the registers of mortality should correctly answer, viz: "Why did this man, this woman, this child die?" This is the first question that is asked for sanitary or other useful or judicial purposes, and throughout the commonwealth it will be most intelligibly answered in the terms now adopted by common consent in the Systematic Nomenclature presented in these pages, for the system and the selected terms here adopted are designed to disclose such of the essential facts in the causation and fatal circumstances of the morbid processes or states as shall *correctly and with full meaning certify the Causes of Death.* Such was the excellent purpose of the late Dr. Wm. Farr, the founder of the English Registry System, and such the design of Professor Virchow and Professor Beneke, who endeavored to establish correct pathological knowledge in their published Nomenclatures. The recent revisions of the Royal College of Physicians' Committee, as adopted in this condensed arrangement of the Statistical Nomenclature, present the best accepted basis for the purposes of public Registration of Deaths as designed by the various great contributors to the science and uses of Vital Statistics and Public Hygiene.

SUPPLEMENTARY MEMORANDUM.—SUGGESTIONS AND EXPLANATIONS.

The certifying physician and the registry clerk alike have to ask the question, "What is the Chief and Determining Cause of the Death which should be publicly registered?" Coroners, magistrates, and occasionally an attending physician, may report the special circumstances or causative conditions of the fatal event; and in all such cases the competent Health Officer endeavors to determine and report the "Chief Determining Cause" before the certificate or verdict is attested and registered.

Consecutive and other Contributing Causes of Death.—These may be highly important, and may precede as well as follow the beginning of the Chief Cause. It is in cases when so important as to be necessary to a correct and publicly-useful record of fatality, that these Contributing Causes should be entered in the death certificates. In certain instances all the Causes are reported as merely contributing to the fatal result. Even the fatal *Symptom*, in certain cases, may be the most definite, or the only Cause reported, and it may be accepted as a sufficient or justifiable record. Yet such Symptoms should be certified, when practicable, in connection with known Contributing Causes or the Chief Cause of fatality. But the fatal Symptom will, in some cases, when more accurate information is wanting, be quite worthy of the public record. The Statistical Nomenclature con-

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tains the names of the most essential ones, classified in the Groups of Causes to which they are liable to pertain. *Convulsions, Syncope, Albuminuria, Dropsy*, etc., are examples. These Symptoms, as thus associated with fatality, entered in the foregoing classified list, are mostly indicated by a ‡. If the essential Cause of the fatal Symptom, thus recorded, is not disclosed, the public Registry of the Causes of Death in such cases is not perfect, though it may be quite intelligible.

Specific Morbid Processes and the Parts of the Body in which they occur.—Each of the 48 Morbid States and processes, as enumerated on the preceding page, together with some 200 well-named Maladies which take rank scientifically under those general general pathological and technical heads, have precise and practical significance only when expressed and applied in close connection with the names of particular Parts of the Body that thus become the fatal seats of the Causes so specifically entitled. Therefore the certificates of Causes of Death must not make such a fallacious use of mere abstract names of "Morbid States and Processes" as to fail to disclose the actual Causes and Modes of Death. Under the abstract terms New Growth and Degeneration, the more definite names, Cancer, Syphilis and Tubercle are ranked, and each of these three diseases, in turn, may produce fatal results under more than fifty separate forms and titles of Causes of Death; though as respects Syphilis and Tubercle they may oftener be certified as Contributing than as Chief Causes, and oftener still are not mentioned in the records; while "Bright's Disease," so called, comprises no less than sixteen well-entitled terms for certifying five or six diseases affecting the kidneys. These facts show why the certifying Physician and the Registry Officer, while employing a convenient but insufficient general title of a fatal result of disease, need to add a more definitive and explantory term, in many a case of Death.

RULES TO AID IN PERFECTING THE RECORDS OF CAUSES OF DEATH, MOST LIABLE TO DEFECT IN THE CERTIFICATE.

ACCIDENT OR CASUALTY, being certified, should have its cause or nature, and the nature of the fatal injury attested also.

ABSCESS, being certified, should have its location and cause given.

ALBUMINURIA, being certified, should have the attendant disease or conditions given.

AMPUTATION, being certified, should have what part, and for what cause given.

ANEURISM, being certified, should have its kind, the vessel affected, and mode of death given.

ASCITES OR DROPSY, being certified, should have cause, if known, given.

ASPHYXIA, being certified, should have cause or circumstances given.

ASTHAMA, being certified, should have cause, kind, or results given.

BRIGHT'S DISEASE, being certified, should have mode of death, or any known cause, given.

BURNS AND SCALDS, being certified, should have what parts, and by what, given.

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CELLULITIS, being certified, should have what parts and causes given.

CEREBRO-SPINAL MENINGITIS, being certified, state whether "Cerebro-Spinal Fever," or if of other kind, give the cause.

CHILD-BIRTH, being certified, should have what cause and mode of death given.

CANCER, being certified, should have its seat and kind given.

CALCULUS, being certified, should have its kind, mode of death, and if after operation, given.

CARBUNCLE, being certified, should have location and the mode of death, given.

CONVULSIONS, being certified, should, if possible, have variety (Epileptic, Puerperal or Uræmic), given.

DENTITION, being certified, should have mode of death, accompanied by what cause given.

DISEASE OF HEART, being certified, should mention valves, or other parts involved; and the variety given.

ENTERITIS, GASTRITIS, OR GASTRO-ENTERITIS, being certified, should have causes if known, and whether Diarrhœa, given.

ERYSIPELAS, being certified, should have cause and seat given.

EXPLOSION, being certified, should state cause and results.

FEVER, being certified, should have kind and known causes given.

FRACTURES, being certified, should have what bone and if compound, commimted, or simple, with mode of death given.

GANGRENE, being certified, should have causes and parts given.

HERNIA, being certified, should have kind, mode of death, and if any operation, given.

HEMORRHAGE, being certified, should have the vessels. or seat of, and causes given.

JAUNDICE, being certified, should have causes, if known, given.

MALARIA AND MALARIAL FEVER, being certified, should state variety (Intermittent, Remittent, Pernicious or Quotidian).

MALFORMATION, being certified, should have variety, and if congenital given.

MALIGNANT PUSTULE, being certified, should have location and causes given.

MANIA, being certified, should have kind, known causes, and mode of death given.

MENINGITIS, being certified, should have whether Simple, Tubercular, or Traumatic, given.

METRITIS, being certified, should have variety and cause, and whether puerperal, given.

NECROSIS (AND CARIES), being certified, should have seat, original cause, and mode of death given.

OVARIAN TUMOR, being certified, should have mode of death, whether operation, given.

PARALYSIS, being certified, should have kind and known cause given.

PERITONITIS, being certified, should have Simple, Puerperal, Traumatic (and how produced), given.

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PHLEBITIS, being certified, should have cause, variety and seat given.

POISON, being certified, should have by what, and if accidental, suicidal, or homicidal given.

PUTRID SORE THROAT, should specify (*not* Scarlatinal or Diphtheritic), if Quinsy or Sloughing Tonsilitis.

SMALL-POX, being certified, should have if, and when, patient was vaccinated given.

SYPHILIS, being certified, should have, variety or stage, and chief location; with the mode of death given.

TETANUS, being certified, should have Idiopathic; or, if Traumatic,—the nature of injury given.

TUBERCLE AND TUBERCULOSIS, being certified, should have what parts affected; with the mode of death given.

TUMOR, being certified, should have variety and location (see list); and mode of death, given.

ULCERS AND ULCERATION, being certified, should have nature and location; and mode of death, given.

URÆMIA, being certified, should have what cause; and associated with what diseases and conditions, given.

WOUNDS, being certified, should have what parts; nature or kind, and by what, given.

ILLINOIS STANDARD OF REQUIREMENTS FOR REPUTABLE MEDICAL COLLEGES.

In June, 1880, the Illinois State Board of Health appointed a committee to formulate a Schedule of Educational Requirements and Characteristics, by which to determine the good standing of medical colleges. This step was taken in order to enable the board the better to discharge the duty devolved upon it by the Act to Regulate the Practice of Medicine in the State of Illinois; and by which act the board is directed to "issue certificates [entitling to practice] to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in *good standing*."

The following Schedule was prepared by the committee, and subsequently formally adopted by the board, as the standard entitling to recognition, as the basis of legal qualification for practice in Illinois, any diploma *issued after the session of* 1882-83:

MINIMUM REQUIREMENTS FOR A MEDICAL COLLEGE TO BE HELD IN "GOOD STANDING."

I. CONDITIONS OF ADMISSION TO LECTURE COURSES.

1. Credible certificates of good moral standing.

2. Diplomas of graduation from a good literary and scientific college, or high school. Or, lacking this,

3. A thorough examination in the branches of a good English education,

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including mathematics, English composition, and elementary physics or natural philosophy.

II. BRANCHES OF MEDICAL SCIENCE TO BE INCLUDED IN THE COURSE OF INSTRUCTION.

1. Anatomy. 2. Physiology. 3. Chemistry. 4. Materia Medica and Therapeutics. 5. Theory and Practice of Medicine. 6. Pathology. 7. Surgery. 8. Obstetrics and Gynecology. 9. Hygiene. 10. Medical Jurisprudence (Forensic Medicine).

III. LENGTH OF REGULAR OR GRADUATING COURSES.

1. The time occupied in the regular courses or sessions from which students are graduated shall not be less than five months, or twenty weeks each.

2. Two full courses of lectures, not within one and the same year of time, shall be required for graduation with the degree of Doctor of Medicine.

IV. ATTENDANCE AND EXAMINATIONS OR QUIZZES.

1. Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the student's sickness, such absences not to exceed twenty per centum of the course.

2. Regular examinations or quizzes to be made by each lecturer or professor daily, or at least twice each week.

3. Final examinations on all branches to be conducted, when practicable, by competent examiners other than the professors in each branch.

V. DISSECTIONS, CLINICS AND HOSPITAL ATTENDANCE.

1. Each student shall have dissected during two courses.

2. Attendance during at least two terms of clinical and hospital instruction shall be required.

VI. TIME OF PROFESSIONAL STUDIES.

This shall not be less than three full years before graduation, including the time spent with a preceptor, attendance upon lectures, or at clinics and hospital.

VII. INSTRUCTION.

The college must show that it has a sufficient and competent corps of instructors, and the necessary facilities for teaching, dissections, clinics, etc.

Hereafter, diplomas of colleges whose educational requirements and methods fall below the above Schedule, will not be recognized as entitling their possessors to certificates from the Illinois State Board of Health. This does not, however, affect the value of diplomas issued prior to the session of 1883-84.

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THE ACTION OF THE ASSOCIATION ON THE REPORT OF THE BOARD OF CENSORS.

The Senior Censor read the Report of the Board of Censors and Committee of Public Health by the several sections separately for the consideration of the Association. In this way the following vote was taken:

(1) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to enlarging the functions and increasing the usefulness of Vice Presidents be approved by the Association.

The motion was unanimously adopted.

(2) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the adoption of a draft for an ordinance relating to counsellors not members of county societies be approved by the Association.

The motion was unanimously adopted.

(3) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the adoption of an ordinance relating to the election of President be approved by the Association.

The motion was adopted, one voice dissenting.

(4) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the circular letter issued by the Alabama Medical College be approved by the Association.

The motion was unanimously adopted, and the Senior Censor instructed to so inform said college.

(5) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to county convicts and medical contracts be reported adversely by the Association.

The motion was unanimously adopted.

(6) It was moved by the Senior Censor that the recom-

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mendation of the Board of Censors in regard to the adoption of an ordinance relating to the Louisville Medical College be approved by the Association.

The motion was unanimously adopted.

(7) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the compensation of experts be indefinitely postponed.

The motion was unanimously adopted.

(8) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the salaries of County Health Officers be indefinitely postponed.

The motion was unanimonsly adopted.

(9) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Bibb County Medical Society be approved by the Association.

The motion was unanimously adopted.

(10) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Chambers County Medical Society be approved by the Association.

The motion was unanimously adopted.

(11) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Colbert County Medical Society be approved by the Association.

The motion was unanimously adopted.

(12) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Crenshaw County Medical Society be approved by the Association.

The motion was unanimously adopted.

(13) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Macon County Medical Society be approved by the Association.

The motion was unanimously adopted.

(14) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Monroe County Medical Society be approved by the Association.

The motion was unanimously adopted.

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(15) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Pike County Medical Society be approved by the Association.

The motion was unanimously adopted.

(16) It was moved by the Senior Censor that the report of the Secretary, with certain corrections, be approved by the Association.

The motion was unanimously adopted.

(17) It was moved by the Senior Censor that the report of the Treasurer be approved by the Association.

The motion was unanimously adopted.

(18) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the addition of the names of Drs. George Ernest Kumpe, and Francis Armstrong Ross to the Roll of Correspondents, be approved by the Association.

The motion was unanimously adopted.

(19.) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to granting charters to the following medical societies, namely: The Cleburne County Medical Society; the Elmore County Medical Society; the Fayette County Medical Society; the Lamar County Medical Society, be approved by the Association.

The motion was unanimously adopted.

(20) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Board of Medical Examiners of Blount county be approved by the Association.

The motion was unanimously adopted.

(21) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Board of Medical Examiners of Lowndes county be approved by the Association.

The motion was unanimously adopted.

(22) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Board

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of Medical Examiners of Monroe county be approved by the Association.

The motion was unanimously adopted.

(23) It was moved by the Senior Censor that the recommendation of the Board of Censors in regard to the Board of Medical Examiners of Sumter county be approved by the Association.

The motion was unanimously adopted.

(24) It was moved by the Senior Censor that the recommendation of the Board of Censors, acting as a committee of public health, in regard to the several bills intended to serve the interest of the State, viz.:

(1) A bill to define some of the duties of the State Board of Health.

(2) A bill for the regulation of quarantine in Alabama.

(3) A bill for the protection of the travelling public against accidents from color-blindness and defective vision, be approved by the Association.

The motion was unanimously adopted.

(25) It was moved by the Senior Censor that the recommendation of the Board of Censors, acting as a committee of public health in regard to the holding of Sanitary Conventions, under the auspices of the State Board of Health, be approved by the Association.

The motion was unanimously adopted.

(26) It was moved by the Senior Censor that the recommendation of the Board of Censors, acting as a committee of public health, in regard to the registration of infectious diseases, with appended form of certificate, be approved by the Association.

The motion was unanimously adopted.

(27) It was moved by the Senior Censor that the recommendations of the Board of Censors, acting as a committee of public health, in regard to the several reports of the State health officer, on the outbreak of yellow fever at Brewton, &c., be approved by the Association.

The motion was unanimously adopted.

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(28) It was moved by the Senior Censor that the report of the Board of Censors and Committee of Public Health, as a whole, be approved by the Association.

The motion was unanimously adopted.

THE REVISION OF THE BOOK OF THE ROLLS.

The President called attention to the great importance of the business next in order, namely, the Revision of the Book of the Rolls.

It is the peculiar characteristic of our organization that when any duty is required, whether of the auxiliary societies or of the counsellors, annual reports as to the performance or non-performance of such duty, are also required.

The Association insists on knowing how her delegated work is done. She will always find means to reward the good and faithful servant; while her duty to herself and to the State demands that all county societies which are negligent of their duties, and all delinquent counsellors, shall be at once cut off from her communion. This end is what is aimed at in the revision of the rolls, to which we now proceed.

(1) THE REVISION OF THE ROLL OF COUNTY SOCIETIES.

The roll of the County Medical Societies was called in order, and all of them being satisfactorily accounted for by delegates, or by counsellors, by annual reports submitted and payment of dues, were favorably passed upon, except the following, namely:

The Coosa County Medical Society.

This society, although represented by one delegate at the Selma session, failed to send either annual report or dues, as required by the rules of the Association, was ordered to be investigated by the Board of Censors. [Since the adjournment of the session, both report and annual dues have been received.—SECRETARY.]

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The Crenshaw County Medical Society.

This society failed both in annual report, in representation and payment of dues at the Selma session. It was therefore ordered to be investigated by the Board of Censors.

The Lawrence County Medical Society.

This society had no representation at the Selma session, and no report nor annual dues were received from it. It was therefore ordered to be investigated by the Board of Censors.

The following County Medical Societies, viz:

The Cleburne County Medical Society,

The Elmore County Medical Society,

The Fayette County Medical Society,

The Lamar County Medical Society,

Having been granted charters upon the recommendation of the Board of Censors, were ordered to be added to the roll of the County Medical Societies.

The roll of the County Medical Societies was closed until the annual session of the Association in 1885.

(2) THE REVISION OF THE COLLEGE OF COUNSELLORS.

All the counsellors were satisfactorily accounted for, and were ordered to be retained on the roll, except the following, namely:

George Ernest Kumpe, M. D., of Leighton, Madison county, Grand Senior Counsellor of 1873, tendered his resignation on account of removal to White Sulphur Springs, Montana Territory. The resignation was accepted, and his name ordered struck from the roll.

Francis Armstrong Ross, M. D., of Mobile, Grand Senior Counsellor of 1873, tendered his resignation by reason of impaired health. The resignation was accepted, and his name ordered struck from the roll.

Dr. John A. McKinnon, of Selma, Dallas county, Senior Counsellor, was transferred through mistake last year, to the roll of Grand Senior Counsellors, the date of his election

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being 1876. The necessary correction was ordered to be made.

Dr. Clifford D. Parke, of Selma, Dallas county, Senior Counsellor, was transferred through mistake last year to the roll of Grand Senior Counsellors, the date of his election being 1875. The necessary correction was ordered to be made.

John Wyeth Barclay, M. D., of Huntsville, Madison county, Senior Counsellor of 1878, was reported as having been absent from three successive sessions, and his name ordered struck from the roll.

Richard Mathew Fletcher, M. D., of Madison Station, Madison county, Junior Counsellor of 1881, was reported as having been absent for three successive sessions, and his name ordered struck from the roll.

Curtis Burke Herbert, M. D., of Greenville, Butler county, Junior Counsellor of 1879, was reported as having been absent for three successive sessions, and his name ordered struck from the roll.

Samuel Henry Lowery, M. D., of Huntsville, Madison county, Junior Counsellor of 1880, was reported as having been absent for three successive sessions, and his name ordered struck from the roll.

James Julius Winn, M. D., of Clayton, Barbour county, Senior Counsellor of 1878, was reported as delinquent of dues for 1883. His name was ordered struck from the roll.

Job Thigpen, M. D., of Greenville, Butler county, Junior Counsellor of 1879; Conrad Wall, M. D., of Forest Home, Butler county, Junior Counsellor of 1880, and Milton Roil Wright, of Gadsden, Etowah county, Junior Counsellor of 1880, were omitted from the roll of counsellors through mistake. The necessary correction was ordered to be made.

The name of Dr. Franklin Pierce, of Benton, Lowndes county, appears on the list of counsellors elect, at the Birmingham session of 1883, through mistake—Dr. John Washington Pearce, of Oxford, Calhoun county, being entitled to the position. The necessary correction was ordered to be made.

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Paul DeLacey Baker, M. D., Eufaula, Barbour county, and Senior Counsellor of 1878, having died during the year, his name was ordered struck from the roll, and his biography inserted in the Book of the Dead.

Edmund Henry Fournier, M. D., Mobile, and Grand Senior Counsellor of 1873, having died during the year, his name was ordered struck from the roll, and his biography inserted in the Book of the Dead.

The following Counsellors elect having signified their acceptance and paid their dues, their names were ordered to be added to the roll under date of 1883:

Bowie, Andrew, Benton, Lowndes county.
Emory, Aurelius Grigsby, Opelika, Lee county.
Goggans, James Adrian, Alexander City, Tallapoosa county.
Gordon, Frederick Elliott, Linden, Marengo county.
Holt, Simon Augustus, Eufaula, Barbour county.
Pearce, John Washington, Oxford, Calhoun county.
Ward, Henry Bascom, Cuba, Sumter county.
Watson, Charles McAlpine, Eutaw, Greene county.
Wilkerson, Wooten Moore, Montgomery, Montgomery county.

The Secretary announced that there were nine vacancies in the College of Counsellors, whereupon the ballot was ordered and resulted in the following selections to fill the vacancies:

Gilmer, Abram Bessent, Butler, Choctaw county.
Gunn, James Hamlin, Calera, Shelby county.
Huger, Richard Proctor, Anniston, Calhoun county.
Huggins, Isaac, Newbern, Hale county.
Jones, John Paul, Camden, Wilcox county.
King, Goldsby, Selma, Dallas county.
Searcey, James Thomas, Tuskaloosa, Tuskaloosa county.
Trent, Powhatan Green, Rock Mills, Randolph county.
Williams, Charles Washington, Allsborough, Colbert county.

The two Senior Counsellors, whose names here follow, having served the Association as such for ten successive years, were ordered transferred to the roll of the Grand Senior Counsellors:

Godfrey, James Myers, Sumterville, Sumter county.
Starr, Lucius Ernest, Camden, Wilcox county.

The nine Junior Counsellors, whose names here follow,

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were elected at the Selma session, 1879, and having served as such for five consecutive years, were ordered to be transferred to the roll of the Senior Counsellors:

Cross, Benjamin Franklin, Decatur, Morgan county.
Gaines, Vivian Pendleton, Mount Sterling, Choctaw county.
Hoffman, John Richardson, Athens, Limestone county.
Parham, John Calhoun, Gainesville, Sumter county.
Peterson, Francis Marion, Greensboro, Hale county.
Phillips, William Crawford, Selma, Dallas county.
Purnell, William Thomas, Prairie Bluff, Wilcox county.
Sanders, Charles Peak, Pleasant Ridge, Greene county.
Thigpen, Job, Greenville, Butler county.

The roll of the College of Counsellors was here closed until the next annual session of the Association, 1885.

(3) THE REVISION OF THE ROLL OF CORRESPONDENTS.

The Secretary announced that there was one vacancy in the roll of correspondents, caused by the death of Dr. Leonard D. Locke of Dallas, Texas, elected in 1876.

His name was ordered struck from the roll.

On recommendation of the Board of Censors there were added to the roll of correspondents the names of George Ernest Kumpe, M. D., formerly of Leighton, Madison county, Alabama, Grand Senior Counsellor of the Association, now of White Sulphur Springs, Montana Territory; and Francis Armstrong Ross, M. D., of Mobile, Mobile county, Alabama, Grand Senior Counsellor of this Association, resident at Mobile.

The Secretary was instructed to notify Drs. Kumpe and Ross of their election.

The roll of correspondents was closed until the next meeting of the Association, 1885.

(4) THE REVISION OF THE ROLL OF OFFICERS.

The Secretary announced the following vacancies in the roll of officers, namely:

One president, two vice presidents, two members of the board of censors and committee of public health, for five

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years; one censor for four years, one orator and one alternate orator; whereupon the ballot was ordered and resulted in the following selections to fill the several positions, namely:

President—Benjamin Hogan Riggs, M. D., Selma.

Vice Presidents—Pugh H. Brown, M. D., Troy; Job Thigpen, M. D., Greenville.

The Board of Censors and Committee of Public Health—Peter Bryce, Tuskaloosa, for five years; William Henry Johnston, Selma, for five years; Francis Marion Peterson, Greensboro, for four years, to fill the unexpired term of Dr. Benjamin Hogan Riggs.

Orator—James Thomas Searcy, M. D., Tuskaloosa.

Alternate Orator—Andrew Bowie, M. D., Benton.

The roll of officers was here closed until the next annual meeting of the Association on the second Tuesday in April, 1885.

MISCELLANEOUS BUSINESS.

On motion, Greenville was selected for holding the next annual session of the Association.

The following resolutions, offered by Dr. William Henry Sanders of Mobile, were adopted by the unanimous vote of the Association:

The members of the Medical Association of Alabama, with hearts full of appreciation of the hospitality and kindness extended to them during the session now closing, and with memories that will ever recur to this occasion, with unfeigned pleasure, do unanimously adopt the following resolutions:

Resolved, That the most cordial thanks of this body are due, and are hereby tendered to the "Selma Medical Society" for the admirable arrangements made for the transaction of the business of the Association, contributing as they did, so much to the success of the meeting; and for the princely manner in which it entertained the Association at a splendid banquet given last evening at the St. James Hotel. To the doctors individually, who compose the "Selma Medical Society," they would also return thanks for courtesies and kindnesses that have been as thoughtful as they were profuse.

Resolved, That the thanks of this Association are returned to the Waverly Club for the use of their hall, so admirably adapted to the purpose in which to hold the meetings of the Association; to the proprietors of Harmony Hall for its use on the occasion of the delivery of the annual oration, and

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to Father Holland and the young ladies and gentlemen who assisted him, for the beautiful music rendered on the same occasion; to the Press of the city for furnishing reports of the proceedings of the Association, and for the kind sentiments and enlightened views expressed in its columns toward the members of the Association and in behalf of its objects and aims; to Mr. R. S. Wetmore for so generously placing at the disposal of the Association an abundance of stationary for its use; and to the people of every business and profession for the hearty welcome and warm hospitality extended and bestowed.

So gracefully has all this been done that the members of this Association would be untrue to the promptings of their hearts did they not carry away with them the most pleasant recollections of the beautiful city of Selma, with her brave men and fair women.

Resolved, That the thanks of the Association are also tendered to the various railroad companies that have granted members excursion rates in attending the meeting of the Association.

Dr. Benjamin Hogan Riggs, of Selma, president elect, was escorted to the chair by Drs. William H. Sanders, of Mobile, and Davis E. Cason, of Ashville, St. Clair county, and introduced by Dr. Mortimer H. Jordan as the future president of the Medical Association of the State of Alabama. Dr. Jordan said:

Dr. Riggs—Allow me to congratulate you on being elected to the presidency of this Association. This is the highest honor that the medical profession in this State has in its power to confer. It afforded me pleasure to be able to say that the Medical Association of this State has made no mistake in entrusting her welfare in your keeping for the next twelve months. Your past history abundantly proves that in your official capacity as well as in your private and professional life, you will endeavor to increase the usefulness and advance the best interests of this Association, and encourage whatever tends to elevate the standard and increase the honor, the glory, and dignity of the medical profession.

Now, gentlemen, my task is done. Were the office of president of this Association, like that of the player, "to fret and strut his little hour upon the stage, and then be heard no more," it would be with deep and profound sorrow that I assigned, even to so worthy a successor, the proud preeminence I have had given me, and so greatly enjoyed.

But if (as is my opinion it is) the office of president should be but preparatory to still greater work in this Association, with such an idea, and to the extent of my poor ability, as far as time, health, and opportunity will permit, I trust that I may be allowed to be with you and of you through many revolving years and participate actively in our annual deliberations.

And now, gentlemen, trusting that this has been a profitable and pleasant session to you, and hoping you a safe return to your homes and a happy re-union with the loved ones there, I bid you an affectionate farewell.

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Benjamin H. Riggs' remarks on taking the chair:

Dr. Riggs said—Mr. President, before vacating the chair you have filled with such credit to yourself and with such satisfaction to the Association, permit me to say that I enter upon the duties of President of the Medical Association of Alabama fully impressed with the great dignity of the office. And I can assure you that your administration has been successful; and but hope that I may be able to follow in the footsteps of so worthy a predecessor. You retire from office with the well earned plaudits of your associates.

Gentlemen of the Medical Association of the State of Alabama—I thank you for the honor done me in electing me president. There is no higher honor in the gift of man. Not desiring political or social preferment, I have a commendable ambition to succeed in my profession, and to be preferred among my peers is the height of my ambition. I have taken great interest in the growth of this Association—I have endeavored to serve its interests. In the organization after the war, in 1868, which took place in Selma, it happened to be my fortune to take an active part. The move to re-organize originated in the Selma Medical Society, and I was put on the committee of correspondence; though a junior member of the committee, nearly all the work devolved upon me. After some correspondence with other societies, delegates assembled in Selma from Mobile, Montgomery, and Greensboro, on March 3d, 1868, and uniting with delegates from our local society, gave a new impetus to society life. Selma, so to speak, has twice given valuable stimulus to the life of this Association. May the present re-union be no exception, but like the fabled wrestler of old, who gathered new strength every time he touched his mother earth, may the State Association have infused new vigor whenever it meets at the old mother, Selma; may her approaching year be the most prosperous of all.

The value of the honor you have conferred upon me is made more exalted when I reflect upon the distinguished line of my predecessors. Since its re-organization this chair has been filled by Mabry, Ross, Michel, Weatherly, Gaston, Anderson, Kumpe, the chevalier Bayard in medicine Bryce, the princely Ketchum, not to mention other equally as worthy incumbents. It is a noble line and worthy the emulation of a generous ambition.

Again thanking you for the honor conferred upon me, I will address myself to the discharge of the duties of the office to the best of my ability.

On motion of Dr. Cochran, the Association adjourned *sine die.*

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THE ANNUAL REGISTER

OF THE

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

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THE BOOK OF THE ROLLS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

INTRODUCTION.—No one can form a just estimate of the labor forced upon the secretary by the imperfect reports sent in by county societies. Almost without exception, these returns have to be re-written, revised and corrected from first to last.

If secretaries of county societies would take the trouble to copy the form published in each volume of the Transactions, little trouble would follow in making these annual reports correct. I cannot be made responsible for mistakes in dates, names and post-offices; nor in colleges of graduation. Let secretaries see to it, then, that they send in their reports absolutely correct.

THE ROLL OF THE COUNTY MEDICAL SOCIETIES.

REVISION OF 1884.

AUTAUGA COUNTY MEDICAL SOCIETY.

President—Green B. Thompson, M. D., Autaugaville.
Secretary—T. G. Howard, M. D., Mulberry.
President of the Board of Censors—S. P. Smith, M. D., Prattville.
County Health Officer—S. P. Smith, M. D., Prattville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Davis, John W., Atlanta medical college, Prattville.
Edwards, Charles Alva, Memphis medical college, Prattville.
Golson, Wyatt W., medical college of South Carolina, Autaugaville.
Howard, Thomas G., Washington University, Baltimore, Mulberry.
McKeithen, Archibald Smith, medical college of Virginia, Prattville.
Moore, J. F., Alabama medical college, Autaugaville.
Saddler, William F., College of Physicians and Surgeons, Baltimore, Autaugaville.
Smith, Samuel Parish, University of Louisiana, Prattville.
Thompson, Green H., Alabama medical college, Autaugaville.
Wilkinson, John E., University of Louisiana, Prattville.
Membership—10.
Howard, Charles M., (honorary member) medical college of South Carolina, Autaugaville.

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REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Pope, Willis, University of Pennsylvania, Milton Beat.
Sherrel, S. L., University of Pennsylvania, Jones' Switch.

Moved into the county—Dr. J. F. Moore, from Belmont, Sumter county, to Autaugaville.

Died—Dr. Duncan M. McNeil, Kentucky school of medicine, Autaugaville.

There are no irregular practitioners in the county.

BARBOUR COUNTY MEDICAL SOCIETY.

President—Simon A. Holt, M. D., Eufaula.
Secretary—Albert Goodwin, M. D., Eufaula.
President of the Board of Censors—Simon A. Holt, M. D., Eufaula.
County Health Officer—Albert Goodwin, M. D., Eufaula.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Clarke, John Wesley, Kentucky School of Medicine, Harris.
Copeland, William Preston, Bellevue Hospital medical college, Eufaula.
Drewry, John Wallace, Jefferson medical college, Eufaula.
Goodwin, Albert, University of Louisville, Eufaula.
Holt, Simon Angustus, University of New York, Eufaula.
Johnston, Egbert Beall, medical college of South Carolina, Eufaula.
Mitchell, William Augustus, University of Louisiana, Eufaula.
Patterson, Thomas, Atlanta medical college, Louisville.
Warren, Monroe, University of Louisiana, Clayton.
Winn, James Julius, Atlanta medical college, Clayton.

Membership—10.

HONORARY MEMBERS.

Drs. E. M. Herron, Louisville, F. M. Bledsoe, Georgetown, Ga.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Battle, J. T., Georgia medical college, Hawkinsville.
Battle, Junius K., University of Louisiana, Eufaula.
Blair, Henry, Atlanta medical college, Louisville.
Carter, W. W., college not given, Jernigan.
Crews, James E., Georgia medical college, Clayton.
Davie, Judson, Georgia medical college, Cowikee.
Faulk, Bingham, college not given, Elansville.
Johnston, T. A., University of Tennessee, Eufaula.
Martin, J. Phillip, Bellevue Hospital medical college, Louisville.
Moye, William R., National medical college, Washington, D. C., 1859, Clayton.
Prewett, Jacob Henry, medical department University of New York, 1868, Harris.
Turner, Alexander, medical college of South Carolina, White Oak.
Walden, W. P., Alabama medical college, Collins' Hill.

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IRREGULAR PRACTITIONERS IN THE COUNTY.

Reynolds, John A., (Eclectic) Pea River.
Russell, Wm. A., (Eclectic) Batesville.

Removed from the county—Drs. J. J. Davie, formerly of Kings, to Columbia, Henry county; S. M. Davie, formerly of Clayton, to Ozark, Dale county; J. B. Pouncy, formerly of Spring Hill, to Bullock county; A. C. Crymes, formerly of Batesville, to Russell county; Z. W. Williams, formerly of Howe, to Glennville, Russell county.

Junius K. Battle, Eufaula, graduate of the University of Louisiana, class of 1883; Egbert Beall Johnston, Jr., Eufaula, graduate of the Alabama medical college, class of 1883, and LeRoy J. Simpson, Montgomery, graduate of Bellevue Hospital medical college, class of 1883, passed successful examinations before the county board and were admitted to practice.

John Johnston, of Eufaula, passed a successful examination preparatory to the study of medicine.

Died—Paul DeLacy Baker, M. D., Georgia medical college, July 7th, 1883, at his home in Eufaula. Age, 55 years.

BIBB COUNTY MEDICAL SOCIETY.

President—J. W. Brand, M. D., Randolph.
Secretary—William C. Cross, M. D., Centreville.
President of the Board of Censors—J. W. Brand, M. D., Centreville.
County Health Officer—William C. Cross, M. D., Centreville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Brand, James Walker, Virginia medical college, 1856, Randolph.
Cross, William Cyprian, Vanderbilt University, Centreville.
Evins, C. A., medical college of South Carolina, Abercrombie.
Randolph, Hendrick Washington, Transylvania University, Briarfield.
Whitfield, Oscar, Vanderbilt University, Briarfield.

UNDERGRADUATES.

Hill, A. G., certificate Tuskaloosa county board, Green Pond.
Monroe, D. E., certificate Tuskaloosa county board, Bibbville.
Wooley, C. L., certificate county board, Randolph.
Membership—8.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Jones, R. S., (Eclectic) Macon, Georgia, Randolph.

Moved out of the county—Drs. James H. Hickman, from Green Pond, to Texas; William Owen, to ———.

Moved into the county—Dr. C. A. Evins, from Marion, Perry county, to Abercrombie; Frederick F. Gage, from Atlanta to Briarfield: Alexander G. Hill, from Atlanta to Green Pond.

Died—R. R. McPherson, M. D., graduate of Vanderbilt University, Day's Mills.

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BLOUNT COUNTY MEDICAL SOCIETY.

President—Lewis Whaley, M. D., Blountsville.
Secretary—J. H. Willoughby, M. D., Arkadelphia.
President of the Board of Censors—Floyd G. Donehoe, M. D., Murphree's Valley.
County Health Officer—John H. Willoughby, M. D., Arkadelphia.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Allgood, William Barnette, Southern medical college, 1881, Chepultepec.
Aldridge, Patrick G., Atlanta medical college, 1875, Brooksville.
Collins, Milton Homer, medical department University of Tennesse, 1884, Summit.
Davidson, Alvan Steele, certificate county board, Gurley's Creek.
Donehoe, Floyd G., Southern medical college, 1881, Murphree's Valley.
Estelle, Samuel Henderson, certificate county board, Blount Springs.
Finley, William, Atlanta medical college, 1879, Village Spring.
Haden, Andrew W., Vanderbilt University, 1882, Summit.
Hendricks, Joseph Franklin, Southern medical college, 1883, Chepultepec.
Ingraham, M. S., certificate county board, Blountsville.
Lee, John Cooper, Georgia medical college, 1854, Blount Springs.
Moore, D. S., Atlanta medical college, Wynnville.
Parker, William P., Atlanta medical college, Blountsville.
Whaley, John Peter Anderson, certificate county board, 1884, Bangor.
Whaley, Lewis, Atlanta medical college, Blountsville.
Willoughby John Henchia, certificate county board, Arkadelphia.
Membership—16.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Drennen, Charles, Alabama medical college, Chepultepec.
Hudson, F. N., college not given, Blountsville.
Robinson, H. B., college not given, Blount Springs.

There are no irregular practitioners in the county.

Discontinued practice—Dr. Thomas J. Griffith, Atlanta medical college, Summit.

Removed from the county—Drs. John Ball, of Blount Springs, to Cullman; D. D. Oats, of Ogee, to Jefferson county; Robert D. Carver, of Blountsville, to Etowah county.

Dr. William Finley, of Village Springs, graduate of the Atlanta medical college; Dr. J. F. Hendricks, Chepultepec, graduate of the Atlanta medical college, and Milton H. Collins, Blountsville, graduate of the Vanderbilt University, class of 1884, passed successful examinations before the county board, and were admitted to practice.

BULLOCK COUNTY MEDICAL SOCIETY.

President—Samuel M. Hogan, M. D., Union Springs.
Secretary—R. H. Hayes, M. D., Union Springs.

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President of the Board of Censors—S. M. Hogan, M. D., Union Springs.

County Health Officer—Charles H. Franklin, M. D., Union Springs.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Banks, Newton P., University of Louisville, 1849, Enon.
Bean, J. M., college not given, Farrisville.
Bledsoe, Nathaniel M., University of Nashville, 1857, Three Notch.
Butt, Richard Lemuel, University of New York, 1846, Midway.
Caldwell, Groves, University of Pennsylvania, 1845, Midway.
Dismukes, B. J., Georgia medical college, 1857, Mt. Hilliard.
Darnell, B. F., college not given, ———.
Fitzpatrick, Clement T., Memphis medical college, 1849, Fitzpatrick's Station.
Franklin, Charles Higgs, University of Louisiana, 1866, Union Springs.
Harris, William Stephen, University of New York, 1857, Dick's Creek, Macon county.
Hayes, Robert Hughes, St. Louis medical college, 1879, Union Springs.
Hogan, Samuel Mardis, University of Louisville, Union Springs.
Jernigan, Charles Henry, Jefferson medical college, 1855, Enon.
Jones, William Kennon, University of Pennsylvania, 1856, Union Springs.
Martin, John Elijah, one course in Alabama medical college, 1873, Union Springs.
Mayes, William Aurelius, Georgia medical college, 1855, Midway.
Reynolds, James Henry, University of Nashville, 1854, Mt. Hilliard.
Walker, William Austin, Jefferson medical college, 1854, Perote.
Watkins, Isaac Livingston, Bellevue Hospital medical college, 1878, Union Springs.
Zeigler, John Olin, one course in Atlanta medical college, 1860, Perote.
Membership—20.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Crymes, Augustus C., Jefferson medical college, 1856, Midway.
Rumph, J. D., medical college of South Carolina, 1836, Perote.
Swanson, W. S., Atlanta medical college, 1857, Midway.
Thomason, W. B., Georgia medical college, 1854, Aberfoil.
Williamson, S. T., medical college of South Carolina, 1858, Mathews' Station.

Removed from the county—Drs. J. M. Bean, formerly of Farrisville, to Buckhorn, Pike county; J. E. Martin, formerly of Union Springs, to Brewton, Escambia county.

There are no irregular practitioners in the county.

Died—G. A. Tompkins, M. D., Jefferson medical college, class of 1837, Mt. Hilliard.

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BUTLER COUNTY MEDICAL SOCIETY.

President—Conrad Wall, M. D., Forest Home.
Secretary—J. Beder Kendrick, M. D., Greenville.
President of the Board of Censors—Curtis B. Herbert, M. D., Greenville.
County Health Officer—Job Thigpen, M. D., Greenville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Allman, J. E., Savannah medical college, 1869, Georgiana.
Broughton, John Thomas, University of Pennsylvania, 1852, Greenville.
Blow, John W., certificate county board, Georgiana.
Donald, J. G., University of Louisiana, 1854, Monterey.
Herbert, Curtis Burke, State board medical examiners, 1879, Greenville.
Kendrick, Joel Beder, Alabama medical college, 1882, Greenville.
Kendrick, Joel Cloud, University of Nashville, 1882, Greenville.
Kendrick, William Thomas, Atlanta medical college, 1876, Greenville.
Lampley, Caleb Bliss, University of New York, 1851, Greenville.
Lloyd, Cary Chappelle, Atlanta medical college, 1856, Greenville.
McCane, J. J., University of Louisiana, 1882, Greenville.
Oliver, H. F., University of Pennsylvania, Georgiana.
Owens, Jared D., Alabama medical college, 1879, Greenville.
Simmons, William Cleveland, certificate county board, Manningham.
Scott, Henry C., Vanderbilt University, 1880, Manningham.
Smith, Robert Edward, Alabama medical college, 1882, Greenville.
Thompson, J. E., Georgia medical college, Greenville.
Thigpen, Job, Georgia medical college, 1856, Greenville.
Wall, Conrad, University of Nashville, 1879, Forest Home.
Webb, Foster C., certificate of county board, Greenville.
Webb, O. F., Alabama medical college, 1880, Greenville.
Wright, William Pendleton, certificate county board, Bolling.
Membership—22.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Baldwin, J. A., Atlanta medical college, 1859, Georgiana.
Browder, R. M., certificate county board, Fort Deposit.
Cook, William H., Transylvania University, 1834, Georgiana.
Harrison, Joseph, Transylvania University, Greenville.
Knight, J. C., New Orleans school of medicine, 1858, Monterey.
McCane, T. A., Graffenburg Institute, 1854, Greenville.
Perdue, J. L., Alabama medical college, 1875, Greenville.
Pryor, W. D., University of Nashville, 1855, Aiken.
Rosser, W. E., Louisville medical college, 1883, Greenville.
Steiner, S. J , Vanderbilt University, 1878, Greenville.
Stewart, A. S., University of Louisville, 1882, Greenville.

Removed from the county—Dr. William T. Kendrick, formerly of Greenville, to Montgomery, Montgomery county.

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Drs. Robt. E. Smith, graduate of the Alabama medical college, class of 1882, Greenville; J. J. Garrett, graduate of the Atlanta Eclectic school of medicine, Monterey, passed successful examinations before the county board and were admitted to practice.

Irregular practitioner in the county—Dr. J. J. Garrett (Eclectic), Monterey.

CALHOUN COUNTY MEDICAL SOCIETY.

President—John Y. Nisbet, M. D., Jacksonville.
Secretary—John C. LeGrand, M. D., Anniston.
President of the Board of Censors—John W. Pearce, M. D., Oxford.
County Health Officer—John Y. Nisbet, M. D., Jacksonville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Buckalew, Ansel Milbran, University of Louisville, 1870, Oxford.
Bullard, Aurelius Franklin, certificate county board, 1881, Oxford.
Brothers, Philip Houston, certificate county board, 1881, Martin's X Roads.
Christian, McAans Thomas William, certificate county board, 1881, Oxford.
Crook, James Edward, University of Nashville, 1883, Alexandria.
Davis, John Francis Marion, Atlanta medical college, 1860, Choccolocco.
Davis, Thomas Asbury, University of Louisiana, 1851, Anniston.
Huger, Richard Proctor, M. D., medical college of South Carolina, 1871, Anniston.
Hughes, John Leander, Georgia medical college, 1851, Cross Plains.
Hill, Thomas Carter, medical college of South Carolina, 1860, Oxford.
Jones, J. H., Atlanta medical college, ——— ———.
King, Charles L., University of Louisville, 1883, Anniston.
LeGrand, John Clark, Atlanta medical college, 1880, Anniston.
Mabbett, Harry, Savannah medical college, 1876, Anniston.
Nisbet, John Young, University of Louisville, 1854, Jacksonville.
Pearce, John Washington, Georgia medical college, 1852, Oxford.
Robertson, Thaddeus Lindley, Jefferson medical college, 1861, Oxford.
Sexton, Charles Richard, University of Louisiana, 1873, Anniston.
Taylor, William D., Bellevue hospital medical college, 1873, Anniston.
Wikle, Jesse Lane, Georgia medical college, 1879, Anniston.
Williams, G. Coke, certificate county board, 1881, White Plains.
Walker, James Fleming, certificate county board, 1881, Weaver's.
Membership—22.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bolling, W. E., certificate county board, 1881, Davisville.
Cowden, ——, certificate county board, 1881, Cross Plains.
Crow, ———, college not given, Jacksonville.
Eavins, B. S., certificate county board, 1881, White Plains.
Francis, J. C., certificate county board, 1881, Jacksonville.
Little, W. W., University of Nashville, 1881, Cross Plains.

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Linder, P. P., certificate county board, 1881, Jacksonville.
Montgomery, C. H., Washington University, Baltimore, 1868, Jacksonville.
Teague, Robert, certificate county board, 1881, Cross Plains.
Williamson, Thomas, certificate county board, 1881, Peek's Hill.
Williams, B. Dudley, certificate county board, 1881, Oxford.

Dr. Harry Mabbett, graduate Savannah medical college, 1876; Dr. Charles L. King, graduate University of Louisville, 1883; Dr. John M. Whiteside, graduate Vanderbilt University, 1881, passed successful examinations before the county board, and were admitted to practice.

Drs. C. R. Sexton and W. D. Taylor presented certificates from other societies and were approved.

Dr. John M. Whiteside removed to Lincoln, Talladega county.

CHAMBERS COUNTY MEDICAL SOCIETY.

President—Benjamin F. Rea, M. D., LaFayette.
Secretary—William B. Trent, M. D., LaFayette.
President of the Board of Censors—B. F. Rea, M. D., LaFayette.
County Health Officer—William B. Trent, M. D., LaFayette.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Beasley, James Albert, Atlanta medical college, 1872, West Point.
Bruce, Hilery Sanford, Atlanta medical college, 1882, Waverly.
Davis, James Lawrence, Alabama medical college, 1874, LaFayette.
Foster, Benjamin Jesse, Georgia medical college, 1870, LaFayette.
Frederick, Albert Henry Roland, University of N. Y., 1856, LaFayette.
Grady, Zachary Taylor, Atlanta medical college, 1870, Fredonia.
Griggs, Asa Wesley, Nashville medical college, 1855, West Point.
Rea, Benjamin Franklin, Jefferson medical college, 1842, LaFayette.
Rutland, John Blake, Southern medical college, 1880, Fredonia.
Trent, William Bailey, Louisville medical college, 1876, LaFayette.
Tyson, William Watson, Georgia medical college, 1854, Fredonia.
Membership—11.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Carmichael, Lawson Green, Graffenburg Institute, 1857, Hickory Flat.
Cooper, John William, medical college of South Carolina, 1845, West Point.
Devaughan, John Wesley, Vanderbilt University, 1883, Mill Town.
Hamner, Lovick Pierce, certificate Randolph county board, 1882, Bloomingdale.
Johnson, Howard H., certificate Tallapoosa county board, 1881, Mill Town.
Kirby, Charles Windham, Southern medical college, 1881, Cusseta.
Perry, C. Franklin, Atlanta medical college, 1878, LaFayette.
Pinkston, James Preston, Graffenburg Institute, Sharon.
Smith, Lawrence, Georgia medical college, 1854, Cusseta.
Trammell, William Monroe, Georgia medical college, 1847, Louisville.

Removed from the county—Drs. Erasmus W. Dunson, to Beulah, Lee

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county; Michael J. Eley, formerly of LaFayette, to Atlanta; Henry M. Bloodworth, formerly of Opelika, Lee county, to New Site, Tallapoosa county; Marsellus E. McIntosh, formerly of LaFayette, to Texas.

There are no irregular practitioners in the county.

CHILTON COUNTY MEDICAL SOCIETY.

President—Isaac D. Lanier, M. D., Clanton.
Secretary—J. Phillip Givhan, M. D., Lomax.
President of the Board of Censors—John A. McNeil, M. D., Jemison.
County Health Officer—William E. Stewart, M. D., Clanton.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Bivings, Albert E., medical college of South Carolina, 1875, Clanton.
Callier, Thomas Eugenius, University of Pennsylvania, 1857, Calliersville.
Dawson, James J., licensed under the old law, 1856, Jemison.
Duke, Francis M., University of Tennessee, 1871, Clear Creek.
Givhan, Joseph Phillip, Alabama medical college, 1872, Lomax.
Johnson, Joseph S., Sr., Georgia medical college, 1859, Maplesville.
Johnson, Joseph S., Jr., Baltimore medical college, 1876, Maplesville.
Lanier, Isaac Dickson, Jefferson medical college, 1856, Clanton.
McNeil, John Archibald, medical college of Vermont, 1853, Jemison.
Pitts, John Spate, University of Tennessee, 1868, Verbena.
Robinson, John R., Jefferson medical college, 1856, Clanton.
Stewart, William Eugene, University of Louisville, 1875, Clanton.
Williamson, Samuel T., medical college of South Carolina, 1858, Verbena.
Wise, John F., Graffenburg medical college, 1835, Cooper's.

Membership—14.

There are no irregular practitioners in the county, nor any regular physicians who are not members of the county society. There have been no deaths; no removals; no application for examination to practice medicine, nor to commence the study of medicine.

CHOCTAW COUNTY MEDICAL SOCIETY.

President—Mathew Turner, M. D., Bladen Springs.
Secretary—William C. Foster, M. D., Mount Sterling.
President of the Board of Censors—R. B. Carr, M. D., Pushmataha.
County Health Officer—Wm. F. Kimbrough, M. D., Bladen Springs.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Brown, C. B., Nashville medical college, 1880, Kairser Hill.
Coleman, Robert Henry, Jefferson medical college, 1852, Isney.
Foster, William Condie, University of Louisville, 1882, Mount Sterling.
Carr, R. B., Pushmataha.
Gaines, Vivian Pendleton, Alabama medical college, 1872, and College of Physicians and Surgeons, New York, 1873, Mount Sterling.
Gilmer, Abram Bessent, Alabama medical college, 1872, Butler.
Hannon, Robert H., University of Louisiana, Pushmataha.

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Harrell, John D., University of Louisiana, Nicholson's Store.
Harrell, O. F., University of Pennsylvania, 1859, Millry.
Horne, William R., University of Louisiana, Pelham.
Johnson, Samuel F., certificate of county board, Butler.
Kimbrough, William Floyd, Alabama medical college, 1883, Bladen Springs.
McCall, Daniel, Atlanta medical college, DeSotoville.
McNeely, John M., University of Louisiana, Tompkinsville.
Moody, Robert F., University of Louisiana, Butler.
Turner, Mathew, college not given, Bladen Springs.
Membership—15.

HONORARY MEMBERS.

Drs. A. P. Harris, University of Louisiana, Pushmataha; J. L. Lenoir, Alabama medical college, St. Stephens; J. H. O'Hara, University of Louisiana, Grand River, Texas; John G. Foster, University of Louisiana, Livingston, Sumter county; W. W. Johnson, Alabama medical college, Taylor, Texas.

There are no irregular practitioners in the county.

No examinations; no deaths.

CLEBURNE COUNTY MEDICAL SOCIETY.

President—Orlander W. Shepard, M. D., Edwardsville.
Secretary—Winston C. Wood, M. D., Arbacoochee.
President of the Board of Censors—Orlander W. Shepard, M. D., Edwardsville.
County Health Officer William A. Neil, M. D., Heflin.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES

Baker, Joseph Lorenzo, Atlanta medical college, 1884, Oak Level.
Camp, Erasmus Taylor, certificate county board, Edwardsville.
Hunt, James Polk, certificate county board, 1883, Edwardsville.
Ligon, Arthur Wellington, Vanderbilt University, 1883, Heflin.
Ligon, Wilson Melton, Georgia medical college, 1884, Oakfuskee.
McRae, Francis Marion, certificate county board, Heflin.
Neil, William Alexander, Georgia medical college, 1881, Heflin.
Pounds, William LaFayette, Atlanta medical college, 1873, Cicero.
Shepard, Orlander Waters, Graffenburg Institute, 1856, Edwardsville.
Wood, Winston Cass, Atlanta medical college, 1881, Arbacoochee.
Membership—10.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Hobgood, S. P., Atlanta medical college.
Huggins, N. C., college not given, Oak Level.
Martin, T. M., college not given, Arbacoochee.
Reid, R. T., college not given, Wee Bee.
Roberts, D. P., college not given, Oak Level.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Sorrell, ——, Chulafinnee.

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COLBERT COUNTY MEDICAL SOCIETY.

President—J. W. Rand, M. D., Tuscumbia.
Secretary—S. J. Cooper, M. D. Tuscumbia.
President of the Board of Censors—R. T. Abernathy, M. D., Tuscumbia.
County Health Officer—Thomas J. Bickley, M. D., Tuscumbia.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Abernathy, R. T., college not given, Tuscumbia.
Bickley, Thomas J., college not given, Tuscumbia.
Cooper, S. J., college not given, Tuscumbia.
Moore, J. H., college not given, ———.
Pride, J P., college not given, Pride Station.
Rand, E. P., college not given, Tuscumbia.
Rand, Edgar, college not given, Leighton.
Rand, J. W., college not given, ———.
Wheeler, W. C., college not given, ———.
Williams, Albert, college not given, ———.
Williams, Charles Washington, University of Nashville, 1873, Allsborough.
Membership—11.

The roll of officers and members here given is that of 1881. The society was represented by one delegate at the Selma session, and paid its dues. It is here inserted with the same imperfections as formerly. Every effort has been made to get a full and correct report, but up to going to press, none has been obtained.

CONECUH COUNTY MEDICAL SOCIETY.

President—Andrew Jay, Jr., M. D., Evergreen.
Secretary—Gross S. Chapman, M. D., Evergreen.
President of the Board of Censors—Adam A. McKittrick, M. D., Evergreen.
County Health Officer—Adam A. McKittrick, M. D., Evergreen.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Chapman, Lewis S., Alabama medical college, 1879, Evergreen.
Fountain, Hugh Thomas, Alabama medical college, 1872, Burnt Corn.
Feagin, Aaron Pinson, Atlanta medical college, 1860, Brooklyn.
Jay, Andrew, Jr., Alabama medical college, 1872, Evergreen.
Lee, Robert Augustus, University of Louisiana, 1860, Evergreen.
McKittrick, Adam Alexander, Georgia medical college, 1860, Evergreen.
Shaw, John L., University of Louisville, 1840, Bellville.
Shaver, William Benjamin, Georgia Reform medical college, Herbert.
Talliaferro, Charles T., Atlanta medical college, 1860, Evergreen.
Membership—9.

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REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Airy, John D., Columbus, Ohio, 1856, Evergreen.
Bradley, Ely, Jefferson medical college, 1858, Bellville.
Grissitt, William J., Alabama medical college, 1872, Sepulga.
McCreary, John A., University of Louisiana, 1880, Evergreen.
Murphy, R. N., Alabama medical college, 1872, Castleberry.

There are no irregular practitioners in the county.

Died—Dr. Andrew J. Robinson of Brooklyn, graduate of the Atlanta medical college, 1859. Dr. Robinson retired from practice some years ago.

William C. Shaw, of Bellville, passed a successful examination before the county board, preliminary to the study of medicine. After which, he attended one course in the Alabama medical college.

COOSA COUNTY MEDICAL SOCIETY.

President—John B. Kelley, M. D., Kelleyton.
Secretary—William T. Hamilton, M. D., Nixburg.
President of the Board of Censors—John J. Hunter, M. D., Rockford.
County Health Officer—John J. Hunter, M. D., Rockford.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Bailey, William, certificate county board, 1883, Equality.
Coker, James Jasper, certificate county board, Rockford.
Crowson, Richard Jasper, Atlanta medical college, Weogufka.
Goggans, James Peter, licensed under the old law, Nixburg.
Hamilton, William T., Alabama medical college, 1883, Nixburg.
Hunter, John James, Alabama medical college, Rockford.
Jowers, Solomon, certificate county board, 1883, Equality.
Kelley, John Baker, Jefferson medical college, 1859, Kelleyton.
Mathews, John Thomas, certificate county board, Hanover.
Moon, William Henry, Alabama medical college, Goodwater.
Peddy, William Jeremiah, certificate county board, Rockford
Simpson, John L., certificate county board, 1882, Goodwater.

Membership—12.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Pope, Chandler M., Jefferson medical college, Goodwater.
Parker, Elias, certificate county board, Nixburg.
Parker, Berry, certificate county board, Traveller's Rest.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Satter, Preston B., (Botanic) non-licensed, Satter.

Removed from the county—Drs. William Andrew Huddleston, formerly of Sykes' Mills, to Wetumpka, Elmore county; James Andrew Huddleston, formerly of Sykes' Mills, to Georgia; Phillip Peter Goggans, formerly of Sykes' Mills, to Elmore county; Henry C. Dollar, formerly of Marble Valley, and Jake Nelson, formerly of Traveller's Rest, post-offices unknown.

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Moved into the county—Dr. William T. Hamilton, formerly of Mobile, to Nixburg.

Dr. Julius Jones, graduate of Vanderbilt University, class of 1883, passed a successful examination before the county board, and was admitted to practice.

Died—Joseph Marshall Lennard, M. D., Nixburg, graduate of Jefferson medical college, and president of the society, and of the board of censors, January 12th, 1884, of cerebral hemorrhage.

Coosa county, although represented at the Selma session by one delegate, failed to send in its annual report and dues. It was, therefore, ordered to be investigated by the board of censors. [Since the adjournment of the session, both report and annual dues have been received.—SECRETARY.]

CRENSHAW COUNTY MEDICAL SOCIETY.

President—N. D. Barnett, M. D., Argus.
Secretary—William T. Bergamy, M. D., Rutledge.
President of the Board of Censors—James E. Kendrick, M. D., Leon.
County Health Officer—Edmund H. Johnson, M. D., Rutledge.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Albritton, George Allen, Louisville medical college, New Providence.
Bergamy, William Thomas, Atlanta medical college, Rutledge.
Barnett, N. B., Atlanta medical college, Argus.
Johnson, Edmund Harris, Washington University, Baltimore, 1869, Rutledge.
Kendrick, James Evans, Alabama medical college, Leon.
May, Samuel W., College of Physicians and Surgeons, N. Y., Bullock.
Richardson, James P., medical college of South Carolina, Honoraville.
Thrower, Stephen S., certificate county board, Arcadia.
Membership—8.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Hames, J. R., college not ascertained, Argus.
McCrummin, N. H., college not ascertained, Rutledge.
Quillion, Thomas L., college not ascertained, Honoraville.
Street, William N., college not ascertained, Argus.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Dyer, Richard L., college not ascertained, Rutledge.
Horne, Richard, college not ascertained, New Providence.
Moxley, D. N., college not ascertained, New Providence.

Removed from the county—Drs. A. C. Henry, formerly of Bullock, and J. H. Pendry; Dr. Harry Vettar Lucas, formerly of Helicon, to Tallahassee, Florida.

One application for examination from an under-graduate refused.

One certificate issued without examination.

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The roll of officers here given is that of 1883. It is here inserted with the same imperfection as formerly; and as the society has failed to send a report or representation at this meeting, it was ordered to be investigated by the Board of Censors.

DALLAS COUNTY MEDICAL SOCIETY.

President—Frank Tipton, M. D., Selma.
Secretary—Goldsby King, M. D., Selma.
President of the Board of Censors—B. H. Riggs, M. D., Selma.
County Health Officer—Goldsby King, M. D., Selma.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Clark, Courtney James, Jefferson medical college, 1844, Selma.
Clarke, Richard, University of Pennsylvania, 1835, Selma.
Donald, Joseph Marion, University of Louisiana, 1854, Harrell's Cross Roads.
Donald, James Marion, Alabama medical college, 1883, Harrell's Cross Roads.
Furniss, John Perkins, New Orleans school of medicine, 1865, Selma.
Gee, James T., Jefferson medical college, 1843, Burnsville.
Groves, Joseph Asbury, medical college of South Carolina, 1854, Brown's.
Hudson, Herbert Sidney, University of Maryland, 1867, Summerfield.
Jackson, Robert Dandridge, medical college of South Carolina, 1851, Summerfield.
Johnston, William Henry, University of New York, 1867, Selma.
Jones, Wade H., medical college of South Carolina, 1855, Brown's.
Kendall, William Q., college of Physicians and Surgeons, Baltimore, 1880, Mush Creek.
King, Goldsby, medical college of South Carolina, 1851, Selma.
Kyser, G. W., medical college of Virginia, 1865, Richmond.
McKinnon, John Alexander, University of Louisiana, 1857, Selma.
Moseley, Elijah Bucklee, University of Louisiana, 1857, Orrville.
Moore, C. B., medical college of South Carolina, 1839, Summerfield.
Parke, Clifford Daniel, Jefferson medical college, 1850, Selma.
Paisley, Henry S., D. D. S., Selma.
Phillips, William Crawford, University of Louisiana, Selma.
Riggs, Benjamin Hogan, college of Physicians and Surgeons, Baltimore, 1859, Selma.
Tipton, Frank, University of Louisiana, 1870, Selma.
West, J. T., medical college of Virginia, Selma.
Williamson, J. H., Jefferson medical college, 1859, Richmond.
Wilson, Isham G., University of Louisiana, 1869, Martin's Station.
Membership—25.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Adams, B. C., Alabama medical college, 1872, Martin's Station.
Allison, J. D., medical college of South Carolina, 1850, Carloville.

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Alston, L. L., medical college of South Carolina, 1857, Orrville.
Boykin, James O., Transylvania University, 1843, Tilden.
Blevins, John R., University of Louisiana, 1857, Marion Junction.
Cochran, R. M., medical college of Virginia, 1867, Martin's Station.
DuBose, F. D., medical college of South Carolina, Orrville.
Givan, Joseph P., Alabama medical college, 1873, Liberty Hill.
Hall, J. J., University of Louisiana, 1869, Orrville.
Hardy, R. W., medical college of South Carolina, Pleasant Hill.
Lockwood, F. O., medical college of South Carolina, 1854, Carloville.
Mills, J. B., certificate Perry county medical board, Salt Marsh.
Stewart, William C., certificate Perry county medical board, 1858, Soapstone.
Weisinger, John, University of Louisiana, 1876, Brown's.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Graddick, J. N., Transylvania University, 1845, Selma.

Removed from the county—Dr. E. Powell Riggs, formerly of Pleasant Ridge, to Birmingham, Jefferson county.

Dr. James Marion Donald, of Harrell's, graduate of the Alabama medical college, passed a successful examination before the county board, and was admitted to practice.

ELMORE COUNTY MEDICAL SOCIETY.

President—M. G. Moore, M. D., Wetumpka.
Secretary—William A. Huddleston, M. D., Wetumpka.
President of the Board of Censors—M. G. Moore, M. D., Wetumpka.
County Health Officer—George C. Norris, M. D., Mountain Creek.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Avant, John Alonzo, Atlanta medical college, 1884, Buyck.
Fielder, Martin Lucius, Georgia medical college, 1857; medical college of Ohio, 1859, Eclectic.
Fitzpatrick, Phillips, University of Louisiana, 1853, Wetumpka.
Goggans, Phillip Peter, University of New York, 1880, Sykes' Mills.
Huddleston, William Allen, Atlanta medical college, 1880, Wetumpka.
Malay, Ramsy, Alabama medical college, 1884, Deatsville.
Moore, Merriweather Gaines, University of Pennsylvania, 1854, Wetumpka.
Norris, George Calvin, Alabama medical college, 1883, Mountain Creek.
Patterson, Daniel S., Graffenburg Institute, 1857, Central Institute.
Warren, Allen Love, Jefferson medical college, 1859, Kowaliga.

Membership—10.

This county was granted a charter at the Selma session. Hence, the report is not as perfect as it should be.

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ETOWAH COUNTY MEDICAL SOCIETY.

President—Andrew J. Douthit, M. D., Gadsden.
Secretary—Milton R. Wright, M. D., Gadsden.
President of the Board of Censors—John P. Ralls, M. D., Gadsden.
County Health Officer—Joseph Bevans, M. D., Gadsden.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Bevans, Edward Gaudy, Alabama medical college, 1880, Gadsden.
Bevans, Joseph, certificate county board, Gadsden.
Douthit, Andrew Jackson, certificate county board, Gadsden.
Dozier, Marshall Elias, Atlanta medical college, Attalla.
Ewing, Whitney Thomas, University of St. Louis, 1879, Gadsden.
Garlington, William Henry, medical college of South Carolina, 1856, Walnut Grove.
Ralls, John Perkins, Georgia medical college, 1844, Gadsden.
Slaughter, C. Judson, certificate county board, Greenwood.
Wright, Milton Roil, Atlanta medical college, 1873, Gadsden.
Wood, James Hardin, Vanderdilt University, 1881, Attalla.
Membership—10.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Baker, D. W., Vanderbilt University, 1881, Gadsden.
Baskins, Walter Colquitt, Georgia reform medical college, 1859, Coats' Bend.
Dowdy, E. L., Vanderbilt University, 1876, Greenwood.
Edwards, Thomas, Cincinnati medical college, 1840, Attalla.
Funderberg, W. L., Southern medical college, 1883, Walnut Grove.
Graves, A. M., Vanderbilt University, 1882, Hokes' Bluff.
Lester, James Henry, Atlanta medical college, 1858, Attalla.
Landers, F. P., Atlanta medical college, 1883, Hokes' Bluff.
Liddell, F. A., Southern medical college, 1882, Aurora.
Liddell, J. B., Atlanta medical college, 1882, Gadsden.
Morrow, Thomas David, medical college of South Carolina, Gadsden.
Stephens, James Marion, Vanderbilt University, 1879, Gadsden.
Teague, Francis Bowden, University of Tennessee, 1880, Oaky Hill.

There are no irregular practitioners in the county. No examinations; no removals; no deaths.

FAYETTE COUNTY MEDICAL SOCIETY.

President—A. W. Agnew, M. D., Fayette Court House.
Secretary—W. R. Willingham, M. D., Buck Snort.
President of the Board of Censors—Geo. J. Collins, M. D., Pilgrim's Rest.
County Health Officer—S. W. Agnew, M. D., Fayette Court House.

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NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Agnew, Alexander W., Transylvania University, 1844, Fayette Court House.
Baird, William James, University of Maryland, Garfield.
Collins, George Jackson, Alabama medical college, 1874, Pilgrim's Rest.
Harris, Erastus G., New Orleans medical college, 1845, Fayette Court House.
Hocutt, Henry W., Georgia medical college, Davis' Creek.
Jones, James J., Louisville medical college, 1879, Newtonville.
Miller, Virgil M., Vanderbilt University, 1879, Buck Snort.
Willingham, William R., Nashville medical college, 1860, Buck Snort.
Woods, Thomas B., Louisville medical college, 1876, Mt. Calm.
Woods, Robert M., Louisville medical college, 1881, Garfield.

Membership—10.

This society was granted a charter at the Selma session, hence this imperfect report.

Removed from the county—Dr. Frank M. Abbott, graduate of the Atlanta medical college, formerly of Fayette Court House, post-office unknown.

GREENE COUNTY MEDICAL SOCIETY.

President—Thomas J. Turpin, M. D., Eutaw.
Secretary—Shelby C. Carson, M. D., Burton's Hill.
President of the Board of Censors—Thomas J. Turpin, M. D., Eutaw.
County Health Officer—James P. Barclay, M. D., Eutaw.

NAMES OF MEMBERS, WITH THEIR COLLEGE AND POST-OFFICES.

Barclay, James Paxton, University of New York, 1871, Eutaw.
Boyce, James Spann, Louisville Hospital medical college, 1882, Clinton.
Brassfield, Milton Turner, University of New York, 1869, Forkland.
Byrd, Alexander Hamilton, University of New York, 1869, Forkland.
Byrd, Robert Taylor, University of New York, 1869, Boligee.
Carson, Shelly Chadwick, certificate county board, 1880, Burton's Hill.
Duncan, Augustus Meek, Alabama medical college, 1874, West Greene.
Faut, Joseph Lewis, medical college of South Carolina, 1876, Forkland.
McGehee, Dabney Oswell, Alabama medical college, 1872, Knoxville.
Miner, Philip Barbour, University of Pennsylvania, 1852, Forkland.
Minor, John Launcelotte, Alabama medical college, 1883, Mount Hebron.
Morgan, Isaac DuBose, University of Pennsylvania, 1858, Eutaw.
Murphy, Samuel Silenus, Alabama medical college, 1881, Pleasant Ridge.
Pierce, Thomas William, University of Virginia, 1854, Knoxville.
Pyles, Newton Cyrus, Jefferson medical college, 1860, Chilton.
Sanders, Charles Peak, Transylvania University, 1842, Pleasant Ridge.
Sanders, Henry John, Atlanta medical college, 1856, Clinton.
Smith, John James Alexander, Atlanta medical college, 1858, Union.
Smith, Amand Pfister, Kentucky school of medicine, 1875, Knoxville.
Snoddy, Samuel, Transylvania University, 1831, Mantua.
Snoddy, Virgil, Alabama medical college, 1873, Mantua.
Thetford, William Fletcher, University of Louisiana, 1867, Boligee.

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Turpin, Thomas James, University of Louisiana, 1871, Eutaw.
Webb, Henry Young, Jefferson medical college, 1846, Eutaw.
White, John McElroy, Vanderbilt University, 1876, Pleasant Ridge.
Membership—25.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Mobley, William A., Alabama medical college, ——, Pleasant Ridge.
Parham, George Washington, certificate county board, 1880, Knoxville.

HONORARY MEMBERS.

Murphy, Adolph Sadler, New Orleans school of medicine, 1859, Eutaw.
Watkins, Albert Emmet, Baltimore dental college, 1862, Eutaw.

Removed from the county—Watson, Charles McAlpine, formerly of Eutaw, to Lauderdale county.

Died—Carpenter, Jubal, Eutaw, Alabama.

There are no irregular practitioners in the county.

Dr. John Minor, a graduate of the Alabama medical college, was examined for the practice of medicine and granted a certificate.

The Board of Censors resigned before the election of the new board, owing to a disagreement between them and the county commissioners.

HALE COUNTY MEDICAL SOCIETY.

President—Francis M. Peterson, M. D., Greensboro.
Secretary—E. Burton Ward, M. D., Greensboro.
President of the Board of Censors—F. M. Peterson, M. D., Greensboro.
County Health Officer—William C. Avery, M. D., Greensboro.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Avery, William Cushman, University of Pennsylvania, 1857, Greensboro.
Borden, James Pennington, Southern University, 1874, Greensboro.
Browder, James Daniel, Jefferson medical college, 1842, Macon Station.
Duggar, Reuben Henry, University of Pennsylvania, 1858, Macon Station.
Huggins, Jacob, University of Pennsylvania, 1860, Newbern.
Ingo, Richard, University of Virginia and University of New York, Greensboro.
Lawson, Archibald, Southern University, 1874, and University of New York, 1876, Greensboro.
Owen, William Henry, medical department of University of Nashville, and Vanderbilt University, 1880, Flinn's Mill.
Peterson, Francis Marion, University of New York, 1868, Greensboro.
Pickett, Joseph Martin, Alabama medical college, 1874, Sawyersville.
Ward, E. Burton, medical department University of New York, 1882, Greensboro.
Ward, Thomas Robert, medical college of South Carolina, 1853, Greensboro.
Young, Elisha, Jefferson medical college, 1859, Greensboro.
Membership—13.

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REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Anderson, Thomas J., University of Louisville, Acron.
Gewin, William C., University of Louisville, Acron.
Hedleston, James Lawrence, medical college of South Carolina, 1855, Stewart's Station.
Higgins, Albert William, medical college of South Carolina, 1854, Newbern.
McCrary, William, certificate county board, Halesboro.
Randolph, John, University of New York, 1877, Greensboro.
Shivers, Offa Lunsford, University of Nashville, 1873, Newbern.
Turke, William L., University of Nashville, Cedarville.

There are no irregular practitioners in the county.

Removed from the county—Dr. E. L. Bondurant, formerly of Newbern, to Sunflower Landing, Mississippi.

Dr. Eugene L. Bondurant, graduate of the University of Virginia, passed a successful examination before the county board and was admitted to practice.

HENRY COUNTY MEDICAL SOCIETY.

President—John P. Crawford, M. D., Hilliardsville.
Secretary—Fleming J. Moody, M. D., Abbeville.
President of the Board of Censors—John L. Fowler, M. D., Shortersville.
County Health Officer—Oliver B. Brown, M. D., Lawrenceville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Bird, John S., Louisville medical college, 1876, Hilliardsville.
Bowen, Owen Bulow, Savannah medical college, 1860, Lawrenceville.
Crawford, John P., medical department of University of Louisville, Hilliardsville.
Fowler, James Thomas, medical college of South Carolina, 1883, Shortersville.
Fowler, John Lindsey, medical college of South Carolina, 1883, Shortersville.
Lee, William Joseph, medical department of University of Louisiana; University of Nashville, 1861, Abbeville.
Minter, John Frederick, Georgia medical college, 1878, Columbia.
Moody, Fleming Isaac, College of Physicians and Surgeons, 1876, Abbeville.
Morris, Charles Thomas, Louisville medical college, 1881, Lawrenceville.
Wimberly, Robert Samuel, certificate of county board, Abbeville.

Membership—10.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Darby, John J., Louisville medical college, 1880, Columbia.
Granger, J. W., Georgia medical college (Botanic), Gordon.
Hammond, G. A., Baltimore medical college, Gordon.

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Hiddlebrooks, Elijah E., Botanic medical college, 1847, White Pond.
Long, James Benjamin, Louisville medical college, Abbeville.
Oates, Wyatt S., one-course student, Headland.
Price, James E., one-course student, Headland.
Smith, James B., University of Pennsylvania, 1837, Columbia.
Stovall, J. T., Louisville medical college, 1879, Columbia.

Moved into the county—Drs. John J. Darby and W. Smith, post-office, Columbia.

Dr. James Benjamin Long, graduate of the Louisville medical college, 1882, and resident at Abbeville, was expelled from the society for unprofessional conduct.

There have been no deaths; no removals from the county, and no examinations.

JACKSON COUNTY MEDICAL SOCIETY.

President—George W. Story, M. D., Santa.
Secretary—George W. Foster, M. D., Stevenson.
President of the Board of Censors—William Mason, M. D., Stevenson.
County Health Officer—James P. Rorex, M. D., Scottsboro.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Adkins, Charles W., certificate county board, Langston.
Boyd, James Harvey, University of Nashville, 1860, Larkinsville.
Blakemore, Andrew Newton, University of Nashville, 1880, Dodsonville.
Brewer, J. M., Vanderbilt University, Paint Rock.
Cotnam, Thomas Taylor, University of Nashville, 1855, Stevenson.
Foster, George Winfield, Vanderbilt University, 1882, Stevenson.
Graham, Mike, certificate county board, Stevenson.
Horton, John Jackson, Vanderbilt University, 1882, Bass Station.
Mason, William, Transylvania University, 1846, Stevenson.
Maples, William C., University of Tennessee, 1881, Bellefonte.
McCord, David B., University of Nashville, 1855, Scottsboro.
McCord, John H., certificate county board, Scottsboro.
McCollough, Albert Morris, certificate county board, Bellefonte.
Padgett, David Andersson, Vanderbilt University, 1882, Fackler.
Rorex, James Polk, Alabama medical college, 1875, Scottsboro.
Smith, Barton Brown, University of Nashville, Larkinsville.
Smith, W. B., certificate county board, Santa.
Story, George Washington, University of Nashville, 1855, Santa.
Membership 18.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Allen, William, certificate county board, Langston.
Duckett, James A., certificate county board, Larkins' Fork.
Derrick, L., college not given, Woodville.
Gathers, Henry, certificate county board, Princeton.

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Grand, F. R., certificate county board, Larkins' Fork.
Knowlton, J. W., Vanderbilt University, 1883, Paint Rock.
Lee, E. L., University of Nashville, Bridgeport.
Martin, Hezekiah Lee, Vanderbilt University, 1881, Limerock.
McAffee, G. P., certificate county board, Limerock.
Parks, James M., certificate county board, Scottsboro.
Robertson, Thomas O., certificate county board, Hollytree.
Spiller, William Kingston, Vanderbilt University, 1874, Bridgeport.

J. W. Knowlton, M. D., of Paint Rock, passed a successful examination before the county board, and admitted to practice.

Moved from the county—W. B. McKelvy, formerly of Larkinsville, to Leighton, Lawrence county Alabama.

There are no irregular practitioners in the county.

JEFFERSON COUNTY MEDICAL SOCIETY.

President—Harden P. Cochrane, M. D., Birmingham.
Secretary—Albert G. Douglass, M. D., Birmingham.
President of the Board of Censors—John W. Sears, M. D., Birmingham.
County Health Officer—Henry J. Winn, M. D., Birmingham.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Abernethey, Burwell Gideon, College of Physicians and Surgeons, Baltimore, Birmingham.
Abernethy, Jones Cadwalader, University of Louisiana, 1859, Birmingham.
Acton, Samuel W., Alabama medical college, 1860, Trussville.
Brown, George Washington, Atlanta medical college, 1877, Pratt Mines.
Burton, John Whitworth, Nashville medical college, 1877, Coalburg.
Burgamy, Tilman Purifoy, Jefferson medical college, 1855, Birmingham.
Cochrane, Hardin Perkins, University of New York, 1855, Birmingham.
Copeland, Benjamin Grigsby, Jefferson medical college, 1883, Birmingham.
Caldwell, Henry Martyn, college not given, Birmingham.
Earle, Edward Pickens, University of North Carolina, 1880, Birmingham.
Davis, John Daniel Sinkler, Atlanta medical college, 1879, Birmingham.
Douglass, Albert Gallatin, Vanderbilt Univesity, 1881, Birmingham.
Dozier, John Calhoun, University of Nashville, 1858, Birmingham.
Gillespy, John Sharp, Miami medical college, 1883, Jonesboro.
Henly, Albert Thomas, University of New York, 1869, Birmingham.
Heard, Henry Thomas, Atlanta medical college, 1876, Birmingham.
Hughes, Brice Martin, University of Louisiana, 1882, Birmingham.
Jordan, Mortimer Harvey, Miami medical college, 1868, Birmingham.
Ledbetter, Samuel Leonidas, University of Louisville, 1869, Birmingham.
Luckie James Buchner, University of Pennsylvania, 1853, Birmingham.
McCarty, James Henry, Atlanta medical college, 1880, Birmingham.
Prince, Francis Marion, Jefferson medical college, 1849, Jonesboro.
Robinson, Thomas F., Vanderbilt University, 1881, Jonesboro.

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Rosser, Henry N., Atlanta medical college, 1869, Birmingham.
Sykes, William Somerfield, University of Louisiana, 1877, Birmingham.
Shoemaker, Wooster Ney, Columbus medical college, 1878, Birmingham.
Sholl, Edward Henry, Pennsylvania medical college, 1856, Birmingham.
Sears, John William, University of Pennsylvania, 1850, Birmingham.
Whelan, Charles, University of Louisiana, 1866, Birmingham.
Winn, Henry Jasper, University of Pennsylvania, 1858, Birmingham.
Membership—31.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Abercrombie, John Patterson, Alabama medical college, 1880, Cedar Grove.
Bevans, James Madison, certificate Madison county board, Warrior.
Brewster, Andrew Jackson, Alabama medical college, 1880, Birmingham.
Cunningham, Russell McWhorter, University of New York, 1879, Pratt Mines.
Cooper, William Dudley, Jefferson medical college, 1869, Birmingham.
Cross, Samuel Mardis, Georgia medical college, 1860, Oxmoor.
Crow, Andrew Jackson, Atlanta medical college, 1868, Warrior.
Edwards, Robert Smith, Atlanta medical college, 1871, Trussville.
Ellis, Gideon Wesley, certificate Elyton Botanical Association, Warrior.
Foster, Ezra, certificate county board, Toad Vine.
Greene, Robert Smith, Alabama medical college, 1860, New Castle.
Moore, Wesley E., Atlanta medical college, 1880, Leeds.
Mathews, Robert Julius, Georgia medical college, Warrior.
McClendon, J. W., ———, Irondale.
Posey, William Felix, Alabama medical college, 1851, Mt. Pinson.
Ragsdale, Milton, Alabama medical college, McCalla.
Roberts, Martin, certificate county board, Haygood's Cross Roads.
Vann, James Bird, University of Louisiana, 1881, Huffman.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Meadows, Albert E., (Homœpathist) Hahnemann medical college, Philadelphia, 1883, Birmingham.
Monroe, Andrew Leight, (Homœpathist) Pulte medical college, Ohio, 1879, Birmingham.

CERTIFICATES ENDORSED.

Abernethy, J. C., Marengo county board, Birmingham.
Copeland, Benjamin G., Limestone county board, Birmingham.
Cunningham, R. M., Jefferson county board, Pratt Mines.
DuBose, Wilds Scott, Shelby county board, Birmingham.
Lacy, Edward P., certificate Shelby county board, Trussville.
Oates, D. D., Blount county board, Leeds.

Drs. John Gillespie, of Jonesboro; Henry T. Heard, formerly of LaGrange, Georgia; James H. McCarty, formerly of Jefferson, Georgia, and Albert E. Meadows, Homœpathist, Birmingham, graduate of the Pulte medical college, Cincinnati, Ohio, class of 1883, passed successful examina-

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tions before the county board, and were admitted to practice. Dr. Francis Vivian Cleckley, Homœpathist, passed an unsuccessful examination before the county board, and was refused a certificate.

Removed from the county—Dr. W. S. Sykes, formerly of Birmingham, to West Point, Mississippi.

All the county members dropped last year, have made application for re-election, and were formally admitted to fellowship.

LAMAR COUNTY MEDICAL SOCIETY.

President—William L. Morton, M. D., Vernon.
Secretary—R. J. Redden, M. D., Cansler.
President of the Board of Censors—William H. Kennedy, M. D., Kennedy.
County Health Officer—

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Barksdale, James Ira, University of Nashville, 1872, Olinda.
Blakeney, Lewis Columbus, Alabama medical college, 1874, Gentry.
Kennedy, John Oscar, Alabama medical college, 1882, Kennedy.
Kennedy, William Henson, Nashville medical college, 1851, Kennedy.
Morton, Martin Watson, Cincinnati medical college, 1854, Vernon.
Morton, William Locke, University of Louisiana, 1875, Vernon.
Redden, Robert James, Baltimore medical college, 1873, Cansler.
Membership—7.

This Society was first granted a charter at the Birmingham session, 1877; since which time it has sent to the annual sessions of the Association neither representatives nor reports. It was therefore ordered, upon the recommendation of the Board of Censors, at the Mobile session of 1882, that the charter granted the Lamar county medical society be rescinded, and that the surviving officers of the organization be notified of the fact.

The physicians of the county effected a complete re-organization this year, and at the Selma session made application for a new charter, which was granted.

LAWRENCE COUNTY MEDICAL SOCIETY.

President—John M. Clark, M. D., Mount Hope.
Secretary—Buchanan S. Wert, M. D., Moulton.
President of the Board of Censors—Calvin A. Crow, M. D., Moulton.
County Health Officer—Henry F. Newsum, M. D., Courtland.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Burkett, Henry Bascom, college of Physicians and Surgeons, New York, 1878, Hillsboro.
Bowling, George Washington, University of Louisville, Landersville.
Carter, Parkerson P., certificate county board, 1878, Brickville.
Clark, John McWhorter, University of Louisville, 1850, Mount Hope.

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Crow, Calvin Augustus, Jefferson medical college, 1854, Moulton.
Dinsmore, David F., University of Louisville, 1872, Landersville.
Hodges, John P., University of Nashville, 1872, Oakville.
Houston, John S., Vanderbilt University, Courtland.
Houston, Leonidas W., University of Nashville, Courtland.
Kumpe, George Ernest, University of Pennsylvania, Leighton.
Ligon, Charles W. B., University of Louisville, Moulton.
Martin, John R., University of Nashville, Concord.
Mastison, Byron O., Indiana medical college, 1869, Avoca.
Mastison, John T., Philadelphia University of Medicine and Surgery, Moulton.
McMahon, Fortunatus S., University of Pennsylvania, 1857, Forkland.
McMahon, William J., New Orleans school of medicine, 1851, Courtland.
Newsum, Henry F., Memphis medical college, Courtland.
Porter, Reese Bowen, University of Nashville, 1868, Town Creek.
Ponder, Abraham V., American medical college, Mount Hope.
Simms, Edgar Thomas, Philadelphia University of Medicine and Surgery, 1869, Hillsboro.
Wert, Buchanan Sale, University of Louisville, 1878, Moulton.
Membership—21.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Ashford, E. C., University of Louisiana, Courtland.
Dinsmore, John W., Vanderbilt University, 1881, Town Creek.
Edwards, James R., college not given, Courtland.
Edwards, John W., University of Louisville, 1869, Town Creek.
Irwin, William B., certificate of county board, Hillsboro.
King, Benjamin R., University of Pennsylvania, Leighton.
Jones, Thomas N., University of Louisville, ———.
Robinson, John A. P., St. Louis medical college, Leighton.
Shegog, George, King's College, Dublin, Ireland, 1846, Leighton.
Stephenson, H. W., Alabama medical college, Avoca.

Removed from the county—Joseph M. Kumpe, of Leighton, to Montana.
Died—Dr. Frank W. Sykes, January 6th, 1883, at Decatur.
There are no irregular practitioners in the county.

The roll of officers and members here given is that of last year. The society had no representative at the Selma session, and no report or dues was received from it. It was therefore ordered to be investigated by the Board of Censors.

LEE COUNTY MEDICAL SOCIETY.

President—Aurelius G. Emory, M. D., Opelika.
Secretary—Levin W. Shepherd, M. D., Opelika.
President of the Board of Censors—
County Health Officer—Amos W. McCoy, M. D., Opelika.

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NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Barnett, John Blalock, University of New York, 1854, Opelika.
Bedell, Robert Bruce, University of Tennessee, 1869, Opelika.
Bennett, Abijah Benjamin, College of Physicians and Surgeons, Baltimore, 1881, Opelika.
Bloodworth, Wiley Washington, Jefferson medical college, 1854, Opelika.
Drake, John Hodge, Atlanta medical college, 1867, Auburn.
Emory, Aurelius Grigsby, medical department University of Louisiana, 1862, Opelika.
Floyd, James William Daniel, University of Pennsylvania, 1820, Salem.
Johnston, William Henry, medical college of South Carolina, 1859, Loachapoka.
Love, James Madison, medical college of South Carolina, Salem.
McCoy, Amos W., Georgia medical college, 1846, and medical department of New York, 1853, Opelika.
Shepherd, Levin Wilson, University of New York, 1859, Opelika.
Membership—11.

REGULAR PHYSICANS NOT MEMBERS OF THE SOCIETY.

Hobbs, Joel V., (Eclectic) Southern reform medical college, 1880, Lively.
Love, William J., University of Nashville, Salem.
McCoy, Charles B., College of Physicians and Surgeons, New York, Opelika.
Rowe, Andrew Thomas, Georgia medical college, Auburn.
Shelton, M. D., University of Nashville, Salem.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Lamar, William H., college not given, Auburn.
Williams, J. W. R., college not given, Opelika.

Removed from the county—Drs. R. A. Cameron, (Irregular) to Brownville, Russell county, Alabama, and Isham B. Fuller, of Opelika, to Russell county, Alabama.

LIMESTONE COUNTY MEDICAL SOCIETY.

President—Theophilus Westmoreland, M. D., Athens.
Secretary—Paul C. Gaston, M. D., Athens.
President of the Board of Censors—John R. Hoffman, M. D., Athens.
County Health Officer—John R. Hoffman, M. D., Athens.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Fish, William S., University of New York, 1856, Athens.
Gaston, Paul Cheeves, Vanderbilt University, 1878, Athens.
Hill, Henry Willis, University of New York, 1849, Mooresville.
Hoffman, John Richardson, Jefferson medical college, 1858, Athens.

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Houston, John S., University of Louisville, 1877, Athens.
Pettus, Joseph Albert, University of Nashville, 1867, Elkmont.
Rankin, James Coffield Mitchell, University of Nashville, 1858, Belle Mina.
Westmoreland, Theophilus, University of Nashville, 1856, Athens.
Withers, Samuel Jordan, University of Pennsylvania, 1850, ———.
Membership—9.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Carter, J. J., non-graduate, Athens.
Collins, J. M., non-graduate, Athens.
Dupree, William J., non-graduate, Athens.
McDonald, J. R., University of Nashville, 1867, Athens.
Moore, Elisha D., non-graduate, Athens.
Pettus, Thomas C., non-graduate, Pettusville.
Williamson, M. R., University of Nashville, 1867, Westmoreland.
Williams, G. A., University of Nashville, 1880, Athens.
York, Samuel E., Louisville medical college, 1878, Athens.
Membership—15.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Dickson, Spencer C., (Botanic) Athens.
Johnston, George, (Botanic) Elk River Mills.
Moebes, Otto, (Homœpathic) Athens.

Removed from the county—Drs. Oscar B. Cartwright, formerly of Madison, to Decatur, Morgan county; Frank Gilmore, formerly of Athens, to Texas; Benjamin G. Copeland, to Birmingham.

Benjamin G. Copeland, graduate Vanderbilt University, class of 1882, passed a successful examination before the county board, and was admitted to practice.

William Hagan, of Athens, graduate of the Jefferson medical college, class of 1884, and James A. Hill of Mooresville, graduate of the Vanderbilt University, class of 1884, have filed application for examination before the county board, but no action has yet been taken.

LOWNDES COUNTY MEDICAL SOCIETY.

President—Daniel S. Hopping, M. D., Letohatchie.
Secretary—Shirly Bragg, M. D., Hayneville.
President of the Board of Censors—Hugh W. Caffey, M. D., Hayneville.
County Health Officer—Shirly Bragg, M. D., Hayneville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Bowie, Andrew, medical college of South Carolina, 1854, Benton.
Bragg, Shirly, Alabama medical college, 1876, Hayneville.
Bruner, Pinckney McDonald, Alabama medical college, 1861, Bragg's Store.
Buford, William Larkin, certificate of county board, 1878, Mount Willing.

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Caffey, Hugh William, medical college of South Carolina, 1855, Hayneville.
Carr, George Washington, LaFayette University of Pennsylvania, 1855, Fort Deposit.
Cilley, Phillip Noble, University of Louisiana, 1848, Lowndesboro.
Dilburn, Samuel George, Alabama medical college, 1875, Bragg's Store.
Haygood, Daniel, medical college of South Carolina, 1859, Mount Willing.
Hopping, Daniel Stiles, Jefferson medical college, 1852, Letohatchie.
McQueen, Samuel Foxworth, Jefferson medical college, 1858, Fort Deposit.
Mushatt, John Patrick, medical college of South Carolina, 1855, Hayneville.
Pierce, Dunklin, University of Louisiana, 1858, Benton.
Pritchett, John Albert, University of Virginia, 1855, Hayneville.
Reese, Charles Edwin, Jefferson medical college, 1855, Lowndesboro.
Russell, John Hamilton, certificate county board, 1878, Sandy Ridge.
Weaver, N. C., University of Tennessee, 1883, Fort Deposit.
Membership—17.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Ansley, John Samuel, Atlanta medical college, 1876, Mount Willing.
McRae, Abraham Cruser, University of Pennsylvania, 1850, Lowndesboro.
Owen, Paschal Harrison, University of New York, 1859, Morganville.
Peake, William E., Vanderbilt University, 1883, Farmersville.
Peake, John Samuel, medical college of South Carolina, 1854, Farmersville.
Sanderson, Edmund Lindsay, Jefferson medical college, 1857, Letohatchie.
Stephens, James John, Georgia medical college, 1859, Sandy Ridge.
Williamson, Samuel Eggleston, University of New York, 1856, Benton.

Removed from the county – Drs. Hugh Thomas Caffey, formerly of Hayneville, and Edward Clayton Dunklin, formerly of Collerine, to Florida; William Robinson Hardy, formerly of Benton, to Pleasant Hill, Dallas county; William Josiah Moss, formerly of Bragg's Store, to Kentucky; Benjamin Franklin Watkins, formerly of Bragg's Store, to Texas; and Aurelius Daniel Coleman, formerly of Mount Willing, to Louisiana.

Drs. William E. Peake of Farmersville, graduate of Vanderbilt University, and William C. Weaver, graduate of the University of Tennessee, passed successful examinations before the county board and were admitted to practice.

Dr. Eugene H. C. Snow, graduate of the University of Tennessee, passed an unsuccessful examination before the county board, and certificate refused.

Dr. Felix Grundy Offut, graduate of the Cincinnati (Eclectic) medical college, applied for examination, but on presentation of the written questions he withdrew.

Mr. Felix Tankersley passed, successfully, the examination preliminary to the practice of medicine.

Died—Edward Hill Pritchett, M. D., of Hayneville, December 14, 1883.

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MACON COUNTY MEDICAL SOCIETY.

President—Benj. F. Johnson, M. D., Notasulga.
Secretary—Howard A. Alexander, M. D., Tuskegee.
President of the Board of Censors—Wesley F. Hodnett, M. D., Tuskegee.
County Health Officer—Wesley F. Hodnett, M. D., Tuskegee.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Alexander, Howard Augustus, Kentucky school of medicine, 1875, Tuskegee.
Arberry, William Buchanan, Vanderbilt University, 1875, Tuskegee.
Boyd, Charles LeRoy, medical college of South Carolina, LaPlace.
Boyd, James, medical college of South Carolina, LaPlace.
Brunson, Thaddeus W., University of Pennsylvania, Society Hill.
Ellison, James E., University of Pennsylvania, Creek Stand.
Griggs, John Gardner, University of Pennsylvania, Tuskegee.
Gautier, William Jones, University of Pennsylvania, 1850, Tuskegee.
Hodnett, Wesley Forbush, Transylvania University, 1836, Tuskegee.
Johnson, Benjamin Franklin, medical college of South Carolina, 1843, Notasulga.
Judkins, George Bernard, Jefferson medical college, 1859, Shorter's.
Letcher, Francis Marion, University of Louisiana, Shorter's.
Lightfoot, John J., University of Nashville, Shorter's.
Membership—13.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Ivy, Benjamin Franklin, Macon county.
Sistrunk, John, college not given, Society Hill.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Reynolds, W. A., college not given, Warrior Stand.

Mr. T. E. Doyes was granted a certificate, after examination, to practice dentistry.

MADISON COUNTY MEDICAL SOCIETY.

President—A. R. Erskine, M. D., Huntsville.
Secretary—L. C. Pynchon, M. D., Huntsville.
President of the Board of Censors—M. C. Baldridge, M. D., Huntsville.
County Health Officer—M. C. Baldridge, M. D., Huntsville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Baldridge, Milton Columbus, Bellevue Hospital medical college, 1874, Huntsville.
Barclay, John Wyeth, Jefferson medical college, Philadelphia.
Delony, Isaac F., University of Louisville, Triana.

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Dement, John Jefferson, University of Pennsylvania, Huntsville.
Erskine, Albert Russel, University of Pennsylvania, Huntsville.
Fletcher, Richard Mathew, University of Pennsylvania, Madison.
Glover, A. N., University of Nashville, Owen's Cross Roads.
Logan, Alexander L., University of Louisville, Whitesburg.
Lowry, Samuel Henry, Bellevue Hospital medical college, Huntsville.
Macon, Joseph J., Atlanta medical college, Hays' Store.
McLain, David H., Alabama medical college, 1880, Maysville.
Norris, George Dashiells, University ot Maryland, New Market.
Pynchon, Lewis C., Jefferson medical college, Huntsville.
Watts, John P., University Louisville, Meridianville.
Membership—14.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Adams, John W., Richmond medical college, Gurleyville.
Blanton, John C., University of Louisville, New Market.
Blanton, Charles E., Vanderbilt University, New Market.
Brazleton, John H., Vanderbilt University, Berkley.
Burwell, Edwin D., Kentucky medical college, Cluttsville.
Carter, John W., University of Nashville, Cluttsville.
Flint, J. C., University of Louisville, Gurleyville.
Gillespie, James E., Vanderbilt University, Madison.
Harris, A. S., University of Pennsylvania, Madison.
Hatcher, A. W., ———.
Hinds, Bryan W., University of Nashville, New Hope.
Jones, John A. R., University of Nashville, New Market.
Jordan, William F., Jefferson medical college, Maysville.
Lipscomb, DeKalb, certificate of county medical board, New Market.
McDonnell, Henry, University of Louisiana, Huntsville.
Martin, Hezekiah, L., ———.,
Petty, Robert, A., Alabama medical college, Hays' Store.
Pettus, William D., University of Nashville, Hays' Store.
Rivers, W. E., certificate county medical board, New Hope.
Ridley, J. L., University of Nashville, Huntsville.
Robinson, C. A., Jefferson medical college, Huntsville.
Steger, F. E. B., University of Nashville, Maysville.
Scruggs, Burgess E. (colored), Central Union college, Nashville, Huntsville.
Shelby, David, certificate county medical board, Huntsville.
Shelby, A. B., certificate of county medical board, Huntsville.
Slaughter John R., University of New York, Madison.
Sullivan, George R., Shelby medical college, Madison.
Sullivan, William F., certificate county medical board, Owens' Cross Roads.
Talliaferro, E. T., Transylvania University, New Market.
Wall, Alfred A., University of Pennsylvania, Maysville.

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IRREGULAR PRACTITIONERS IN THE COUNTY.

Cochran, R. E. (Eclectic), Botanic medical college, Memphis, New Market.
Rice, Francisco, certifiate county medical board, New Market.

Removed from the county—Fennell, J. W., formerly of Green Grove, to Morgan county; Goldman, J. F., formerly of Huntsville, re-entered the ministry.

Dr. Piere Lawrence Bruillette, Huntsville, graduate of the medical college of Ohio, passed a successful examination before the county board, and was admitted to practice.

Dr. F. D. Cleckey, Homœpathist, was refused a certificate after examination by the county board.

MARENGO COUNTY MEDICAL SOCIETY.

President—J. H. George, M. D., Linden.
Secretary—H. C. Duggar, M. D., Van Dorn Station.
President of the Board of Censors—George Whitfield, M. D., Old Spring Hill.
County Health Officer—William Henry Sledge, M. D., Jefferson.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Allen, William Howard, Louisville medical college, 1882, Sweetwater.
Bailey, Edward Howe Corrie, University of Virginia, 1884, Demopolis.
Duggar, Hobart Cobbs, Alabama medical college, 1879, Van Dorn.
George, James Hosea, medical college of South Carolina, 1867, Linden.
Gordon, Frederick Elliott, Alabama medical college, 1882, Linden.
Kimbrough, William Leonard, University of Louisiana, 1881, Shiloh.
McCants, Robert Bell, Southern medical college, 1882, Jefferson.
Ruffin, James Sterling, University of Pennsylvania, 1849, Demopolis.
Sledge, William Henry, Alabama medical college, 1881, Jefferson.
Whitfield, Bryan Watkins, University of Pennsylvania, 1853, Demopolis.
Whitfield, Charles Boaz, college of Physicians and Surgeons, New York, 1870, Demopolis.
Whitfield, George, University of Pennsylvania, 1858, Old Spring Hill.
Membership—12.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Allen, J. A., college not given, Shiloh.
Bethea, Henry, University of Louisiana, 1861, Faunsdale.
Drummond, Wm. F., college not given, Magnolia.
Evans, Isaiah Thomas, Jefferson medical college, 1837, Luther's Store.
Gillespie, R. C., college not given, Dixon's Mills.
Horn, Frank Clements, Alabama medical college, 1878, Uniontown.
Jones, Richard Augustus, Jefferson medical college, 1855, Dayton.
Kelly, W. D. F., Transylvania University, 1857, Demopolis.
King, Shubal S., University of Louisville, 1847, McKinley.
Luther, John George Michael, University of Louisiana, 1860, Luther's Store.

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McCants, Jason Samuel, Atlanta medical college, 1866, Jefferson.
McCorkle, T. S., Alabama medical college, 1883, Dayton.
Morgan, Henry Walter, Alabama medical collage, 1873, Dayton.
Nixon, William Goodwin, University of Pennsylvania, 1855, Nixonville.
Pegram, Wm. Edward, college not given, Dayton.
Pinkston, James Madison, college of Physicians and Surgeons, Baltimore, 1878, Faunsdale.
Poelnitz, G. G., college not given, Luther's Store.
Reese, Henry Winston, University of Pennsylvania, 1846, Demopolis.
Slade, Henry, Alabama medical college, 1872, Magnolia.
Spotswood, Norborne Dandridge, Kemper college, St. Louis, 1844, Linden.
Smith, Seth David, University of Louisville, 1854, Demopolis.
Strudwick, Edward, college not given, Dayton.
Thomas, Charles B., Southern medical college, Atlanta, 1883, McKinley.
Thomas, John, college not given, Luther's Store.
Webb, James, University of Pennsylvania, 1848, Faunsdale.
Williamson, C. A., college not given, Pickens' Store.
Whitfield, James B., college not given, Demopolis.

Moved into the county—Dr. R. C. Gillespie, from Sumter county, to Dixon's Mills; Dr. J. B. Whitfield, from Mississippi to Demopolis, and Dr. B. B. Poelnitz to Luther's Store.

Removed from the county—Dr. J. C. Abernethy, from Dayton to Birmingham.

Drs. T. S. McCorkle, graduate of the Alabama medical college, 1883, and Charles B. Thomas, graduate of the Southern medical college, 1883, were examined before the county board, and admitted to practice.

Dr. H. J. Darden was examined by the board, and a certificate withheld.

MOBILE COUNTY MEDICAL SOCIETY.

President—Caleb Toxy, M. D., Mobile.
Secretary—Robert G. Southall, Jr., M. D., Mobile.
President of the Board of Censors—George A. Ketchum, M. D., Mobile.
County Health Officer—Thomas S. Scales, M. D., Mobile.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES

Anderson, William Henry, University of Virginia, 1842, Mobile.
Cochran, Jerome, University of Nashville, 1861, Mobile.
Crampton, Orson L., Bellevue Hospital medical college, 1865, Mobile.
Dickson, Edward, Alabama medical college, 1882, Mobile.
Gaines, Edmund Pendleton, University of Pennsylvania, 1846, Mobile.
Goldsborough, Charles B., University of Pennsylvania, 1876, U. S. Marine Hospital service, surgeon in charge marine hospital, Mobile.
Goode, Rhett, Alabama medical college, 1871, Mobile.
Heustis, James Fountain, University of Louisiana, 1848, Mobile.

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Hirschfeld, Henry P., University of Pennsylvania, 1877, Mobile.
Inge, Henry T., University of the City of New York, 1883, Mobile.
Ketchum, George Augustus, University of Pennsylvania, 1846, Mobile.
Oliphant, Samuel R., University of Louisiana, 1855, Mobile.
Owen, Goronway, University of Pennsylvania, 1857, Mobile.
Pape, William B., Alabama medical college, 1882, Mobile.
Paton, William, Alabama medical college, 1876, Mobile.
Reese, Augustus Jordan, University of Louisiana, 1849, Mobile.
Ross, Francis Armstrong, University of Pennsylvania, 1841, Mobile.
Sanders, William Henry, Jefferson medical college, 1861, Mobile.
Sawyer, William Templeton, University of Louisiana, 1860, Whistler.
Scales, Thomas Sidney, College of Physicians and Surgeons, New York, 1867, Mobile.
Sherrard, Christopher Columbus, University of Pennsylvania, 1859, Mobile.
Smith, Daniel Edgerly, Alabama medical college, 1861, Mobile.
Southall, Robert G., Jr., Alabama medical college, 1883, Mobile.
Thomas J. Grey, University of Pennsylvania, 1856, Mobile.
Toxy, Caleb, University of Pennsylvania, 1860, Mobile.
Membership—25.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Auzal, E. W., Baltimore medical college, Chinchula.
Beatty, William Gibbs, Alabama medical college, Whistler.
Boyd, Robert A., (colored) Howard University, Mobile.
Edwards, William M., Alabama medical college, Bayou La Batre.
Grace, J. J., Alabama medical college, Whistler.
Hall, Alexander P., University of Louisiana, Mobile.
Hamilton, Joseph C., University of Pennsylvania, Mobile.
Hicklin, William C., medical college of South Carolina, Mobile.
Johnston, David E., Georgia medical college, 1868, Mobile.
Kennedy, ——, college not given, Mauvilla.
Lovelady, James R., college not given, St. Elmo.
Mastin, Claudius H., University of Pennsylvania, Mobile.
Mastin, William M., University of Pennsylvania, Mobile.
McAdory, William R., Alabama medical college, Mobile.
McCarthy, M. E., Alabama medical college, Whistler.
McVoy, Diego, University of Maryland, Spring Hill.
Michael, Jacob G., University of Virginia, Citronelle.
Reynolds, Samuel K., Jefferson medical college, Mobile.
Romer, J. F. B., University of Louisiana, Spring Hill.
Romer, William B., University of Louisiana, St. Elmo.
Tompkins, John E., Vanderbilt University, Mobile.
Walker, Robert C., University of Nashville, Whistler.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Murrell, William J., (Homœpathist) Mobile.

Drs. E. W. Auzal, graduate of the Baltimore medical college, class of

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1880, Chinchula; William T. Hamilton, graduate of the Alabama medical college, class of 1880, Mobile; Henry T. Inge, graduate of the University of the City of New York, class of 1883, Mobile; Henry C. McAdams, graduate of the Alabama medical college, class of 1883, Columbiana; and Robert G. Southall, Jr., graduate of the Alabama medical college, class of 1883, Mobile; passed successful examinations before the county board, and were admitted to practice.

Frank R. Robey, (colored) of Mobile, passed an unsuccessful examination before the county board, and certificate refused.

Removed from the county—Dr. William T. Hamilton, formerly of Mobile, to Nixburg, Coosa county.

Died—Edmund Henry Fournier, M. D., graduate University of Louisiana, Mobile, February 13th, 1884, of pneumonia.

MONROE COUNTY MEDICAL SOCIETY.

President—W. W. McMillan, M. D., Glendale.
Secretary—J. T. Packer, M. D., Monroeville.
President of the Board of Censors—Samuel Gaillard, M. D., Claiborne.
County Health Officer—W. W. McMillan, M. D., Glendale.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Bradley, Hugh, University of Pennsylvania, 1856, River Ridge.
Burroughs, William M., medical college of South Carolina, 1857, Newtown Academy.
Dailey, Felan S., Alabama medical college, 1871, Kempville.
Gaillard, Samuel S., medical college of South Carolina, 1848, Perdue Hill.
Gaillard, G. Walter, Louisville medical college, Claiborne.
Jenkins, James S., medical college of South Carolina, Buena Vista.
McMillan, William W., University of Louisiana, 1856, Glendale.
Packer, J. T., Alabama medical college, 1873, Monroeville.
Russell, J. T., Georgia Reform medical college, Monroeville.
Shomo, James W., Transylvania University, 1855, Mount Pleasant.
Smith, William A., Alabama medical college, Bell's Landing.
Walter, G., Louisville medical college, 1882, Perdue Hill.
Membership—11.

Change of membership—Dr. Henry T. Fountain, Burnt Corn, to Conecuh county medical society.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Daughn, R. J., medical college of South Carolina, Claiborne.
Whisenhant, William, University of Nashville, Buena Vista.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Chapman, William R., Georgia Reform medical college Old Texas.

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Removed from the county—Dr. Frank L. Sewall, formerly of Bell's Landing, post-office not given.

Died—James M. Lindsay, M. D., graduate University of Pennsylvania, residing at Perdue Hill.

MONTGOMERY COUNTY MEDICAL SOCIETY.

President—Wooten M. Wilkerson, M. D., Montgomery.
Secretary—LeRoy J. Simpson, M. D., Montgomery.
President of the Board of Censors—J. S. Weatherly, M. D., Montgomery.
County Health Officer—Benjamin R. Pearson, M. D., Montgomery.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Baldwin, Benjamin James, Bellevue Hospital medical college, 1877, Montgomery.
Baldwin, William Owen, Transylvania University, 1837, Montgomery.
Blue, John Howard, Washington University, Baltimore, Md., 1870, Montgomery.
Douglass, James, medical college of South Carolina, 1857, Montgomery.
Gaston, John Brown, University of Pennsylvania, 1855, Montgomery.
Gindrat, Abram, University of New York, 1856, Montgomery.
Jackson, Walter Clarke, Univesity of Pennsylvania, 1852, Montgomery.
Johnston, John Foot, medical college of South Carolina, 1848, Montgomery.
Jones, Benjamin Rush, Jefferson medical college, 1836, Montgomery.
Means, Thomas Alexander, Atlanta medical college, 1857, Montgomery.
Michel, Richard Fraser, medical college of South Carolina, 1847, Montgomery.
Owen, Paschal Harrison, University of New York, 1859, Morgansville, Lowndes county.
Pearson, Benjamin R., Alabama medical college, 1881, Montgomery.
Seelye, Samuel Dibble, University of New York, 1855, Montgomery.
Simpson, LeRoy Johnston, Bellevue Hospital medical college, 1883, Montgomery.
Weatherly, Job Sobieski, University of New York, 1849, Montgomery.
Wilkerson, Wooten Moore, University of Virginia, 1879, University of New York, 1880, Montgomery.
Whipple, Henry Lawrence, University of New York, 1844, Montgomery.
Williams, Robert Silas, Jefferson medical college, 1848, Mount Meigs.
Wood, Milton LeGrand, Bellevue Hospital medical college, 1877, Montgomery.

Membership—20.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Arnold, John B., college not given, Pine Level.
Bruner, C. W., Ohio medical college, Montgomery.

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Calloway, James H., college not given, Oakley.
Davis, LeRoy W., Georgia medical college, 1853, Morgansville.
Dorsett, Charles Nathaniel (colored), University of Buffalo, Montgomery.
Ellsberry, J. P., Virginia medical college, 1860, Oakley.
Fonville, J. B., college not given, Mount Carmel.
Harris, A. J., Jefferson medical college, Arcadia.
Hill, R. M., University of New York, 1860, Pike Road.
Howell, William H., Atlanta medical college, 1880, and certificate county board, 1880, Mount Carmel.
Ligon, Thomas B., University of New York, 1849, Montgomery.
Mason, John C., Bellevue Hospital medical college, 1881, Orion.
McDade, George Wilkins, New Orleans school of medicine, 1861, Montgomery.
McClean, Thomas B., University of Louisiana, Hope Hull.
McGehee, Benjamin E., Louisville medical college, 1872, Pike Road.
Mullins, J. J., Georgia medical college, 1872, Ramer.
Naftel, Samuel J., Vanderbilt University, 1879, Strata.
Nicholson, John C., Jefferson medical college, 1855, Mt. Meigs.
Patton, George R., Vanderbilt University, 1869, Montgomery.
Rives, George, University of Pennsylvania, 1852, Snowdoun.
Robinson, Dudley, Alabama medical college, 1851, Montgomery.
Sankey, John T., college not given, Montgomery.
Sellers, Anthony Hamilton, medical college of South Carolina, Ramer.
Spear, Pleasant, medical college of South Carolina, Oakley.
Stone, Henry L., University of Maryland, 1868, Montgomery.
Taylor, W. D., Bellevue Hospital medical college, 1879, Louisville medical college, 1875.
Temple, Beverly, college not given, Mt. Meigs.
Townsend, James Barnett, University of Nashville, Pine Level.
Watson, Van B., Kentucky school of medicine, 1880, Strata.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Byron, E. S. (Homœpathist), Montgomery.
Henry, J. Hazzard (Homœpathist), Montgomery.
Langridge, J. (Homœpathist), Montgomery.

Drs. Benjamin James Baldwin, graduate of Bellevue Hospital medical college, class of 1877, Montgomery; Charles N. Dorsett (colored), graduate of University of Buffalo, New York, Montgomery, and C. W. Bruner, graduate of the Ohio medical college, Montgomery, passed successful examinations before the county board and were admitted to practice.

Moved into the county—Dr. LeRoy Johnston Simpson, graduate of Bellevue Hospital medical college, 1883, Montgomery.

Removed from the county—Dr. William Thomas Kendrick, formerly of Montgomery, to Butler county.

Died—Camillus Llewellyn Pinkston, M. D., graduate of University of Maryland, 1868, Mount Meigs.

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MORGAN COUNTY MEDICAL SOCIETY.

President—Scott L. Roundtree, M. D., Hartsell.
Secretary—William G. Gill, M. D., Decatur.
President of the Board of Censors—Benj. F. Cross, M. D., Decatur.
County Health Officer—Benj. F. Cross, M. D., Decatur.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Barcliff, William A., University of Nashville, Hartsell.
Black, William B., certificate county board, 1877, Decatur.
Cross, Benjamin Franklin, University of Louisville, 1857, Decatur.
Clark, John M. (honorary), University of Louisville, 1850, Hartsell.
Cartwright, Oscar B., Vanderbilt University, 1879, Decatur.
Duncan, Henry S., University of Nashville, 1880, Trinity.
Gill, Jordan Lawson, certificate county board, 1877, Somerville.
Gill, William G., University of Louisville, 1843, Decatur.
Henry, A. C., Memphis medical college, 1859, Hartsell.
Hunter, F. B., Vanderbilt University, 1881, Hartsell.
Minor, Lucian, medical college of South Carolina, 1849, Trinity.
Pickett, John J., University of Louisville, 1851, Danville.
Pomroy, J. B., Graffenburg Institute, 1853, Hartsell.
Roundtree, Scott L., Jefferson medical college, 1858, Hartsell.
Sams, Eli M., Cincinnati medical college, 1853, Falkville.
Stevenson, Edward L., certificate county board, 1877, Danville.
Stevenson, Richard L., certificate county board, 1877, Flint.
Turney, William M., University of Nashville, 1865, Falkville.
Turney, Joseph J., Vanderbilt University, 1881, Hartsell.
West, Johnston B., certificate county board, 1877, Cedar Plains.
Wilson, A. R., certificate county board, 1877, Apple Grove.
Wadkins, J. S., Vanderbilt University, 1881, Flint.
Young, William J., University of Nashville, 1872, Decatur.
Membership—23.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Binford, Peter, University of Louisville, 1880, Somerville.
Burnum, S. A., certificate county board, Danville.
Bryan, Thomas L., University of Nashville, 1881, Apple Grove.
Cook, Henry Wiley, certificate county board, 1882, Falkville.
Peck, W. W., certificate county board, 1882, Somerville.
Smith, John W., certificate county board, Valhermosa Springs.

Dr. J. B. Irvin was examined by the county board and rejected.

Died during the year—Charles W. Price, certificate county board, 1877, Somerville.

There are no irregular practitioners in the county.

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PERRY COUNTY MEDICAL SOCIETY.

President—Thomas J. White, M. D., Uniontown.
Secretary—Elias B. Thompson, M. D., Marion.
President of the Board of Censors—John Bradfield, M. D., Chadwick.
County Health Officer—Samuel Perry, M. D., Marion.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Barron, William R., medical college of South Carolina, Marion.
Bates, Francis Asbury, University of Louisiana, 1843, Marion.
Bradfield, John, medical college of South Carolina, 1845, Chadwick.
Callier, Armistead M., non-graduate, Uniontown.
Coleman, J. W., Jefferson medical college, 1847, Uniontown.
Downey, William T., non-graduate, Uniontown.
Houston, J. H., University of Pennsylvania, 1848, Uniontown.
Jeffries, William B., Washington University, 1865, Uniontown.
Johnston, William A., Bellevue Hospital medical college, Hamburg.
Johnston, William S., medical college of South Carolian, 1859, Hamburg.
Langhorne, John Miller, University of Pennsylvania, 1845, Uniontown.
Langhorne, William H., University of Pennsylvania, Uniontown.
McAllister, William Thomas, University of Virginia, 1848, Marion.
Perry, Samuel, medical college of South Carolina, 1854, Marion.
Pou, James Rufus, medical college of South Carolina, 1854, Uniontown.
Sadler, John Milton, University of Louisiana, 1873, Uniontown.
Thompson, Elias Benson, University of Louisiana, 1869, Marion.
White, Thomas Jefferson, Jefferson medical college, 1873, Uniontown.
Wilkerson, Charles A., University of New York, Scott's Station.
Wilkerson, William Washington, Jefferson medical college, 1855, Marion.
Membership—20.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Foster, Robert, medical college of South Carolina, Marion.
Rawles, Edmund Socrates, Georgia medical college, 1854, Marion.
Tucker, James B., Vanderbilt University, Jerico.
Webb, Lucius De Yampert, University of New York, Scott's Station.

Removed from the county—Dr. Thomas C. Hill, formerly of Uniontown, to Oxford, Calhoun county, and Dr. Charles A. Evans, formerly of Marion, to Centreville, Bibb county.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Keynerd, Andrew Jackson, (practicing without form of law; system unknown) Marion.

No deaths; no examinations.

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PICKENS COUNTY MEDICAL SOCIETY.

President—Joseph Moody, M. D., Franconia.
Secretary—Samuel H. Hill, M. D., Carrollton.
President of the Board of Censors—C. H. Jones, M. D., Stone.
County Health Officer—Samuel H. Hill, M. D., Carrollton.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Agnew, James A., Alabama medical college, 1874, Providence.
Carpenter, P. J., medical college of South Carolina, 1840, Pickensville.
Ellis, Robert A., University of Louisville, 1870, Stone.
Ezell, William V., University of Louisville, 1872, Carrollton.
Hill, Samuel Feuilleteau, medical college of South Caroliana, 1852.
Hill, Samuel Henry, University of Louisville, 1870, Carrollton.
Jones, John Culbeth Hezekiah, University of Nashville, 1856, Stone.
Moody, Joseph, Louisville medical college, 1871, Franconia.
Moorehead, Henry C., University of Nashville, 1869, Pickensville.
McLeod, John Walter, University of Louisiana, 1882, Bethany.
Paschal, James J., certificate county board, 1880, Reform.
Phillips, John R., certificate county board, 1878, Olney.
Rickman, John W., certificate county board, 1878, Stafford.
Sterling, John J., Alabama medical college, 1861, Olney.
Turnipseed, Benjamin, certificate county board, 1880, Vienna.
Wier, Francis J., Memphis Institute, 1852, Pickensville.
Membership—16.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Baird, Daniel O., certificate county board, 1878, Coal Fire.
Brandon, R. C., certificate county board, 1880, Raleigh.
Duncan, John F., Alabama medical college, 1874, Providence.
Graham, A. M., certificate county board, 1878, Memphis.
Graham, George M., certificate county board, 1881, Olney.
Gunter, Peter T., Memphis Institute, 1850, Coal Fire.
Hinton, William G., Georgia medical college, 1850, Pickensville.
Hopkins, William Foote, medical college of South Carolina, Memphis.
Peebles, Jesse, University of Louisiana, 1848, Stone.
Price, Robert T., Alabama medical college, 1874, Lubbub.
Quinn, James M., certificate county board, 1880, Beard's.
Sanders, Thomas H., college not given, Garden.
Shockley, Thomas W., Alabama medical college, Pleasant Grove.
Stringfellow, Terrell, Transylvania University, 1843, Pickensville.
Williams, Henry L., Jefferson medical college, Lineburgh.

Removed from the county—Dr. Alexander W. Agnew, formerly of Providence, to Fayette Court House, Fayette county.

Dr. John Walters McLeod, graduate of the University of Louisiana, class of 1882, Bethany, passed a successful examination before the county board, and was admitted to practice.

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Died during the year—Robert N. Kirk, M. D., graduate of the University of Louisville, class of 1854, Olney.

There are no irregular practitioners in the county.

This county failing both in representation and report, and the payment of annual dues, at the Selma session, was, under the rules, stricken from the roll.

[Since then, both report and dues have been handed in.—SECRETARY.]

PIKE COUNTY MEDICAL SOCIETY.

President—William H. Posey, M. D., Troy.
Secretary—Josephus J. Beard, M. D., Troy.
President of the Board of Censors—Pugh H. Brown, M. D., Troy.
County Health Officer—Charles W. Hilliard, M. D., Troy.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Beard, Josephus S., University of New York, 1876, Troy.
Brown, Pugh H., University of New York, 1854, Troy.
Crossley, William A., medical college of South Carolina, 1859, Troy.
Eiland, William Andrew, Atlanta medical college, 1881, Henderson.
Ford, Elchanah Gardner, certificate county board, 1878, Troy.
Hendrick, Gustavus, Jefferson medical college, 1856, Brundige.
Hilliard, Charles Wesley, Reform medical college, 1860, Troy.
Hill, Benjamin Augustus, Richmond medical college, 1860, Henderson.
Posey, William Harrison, Jefferson medical college, 1853, Troy.
Ross, William Bankston, Atlanta medical college, 1880, Milo.
Membership—10.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Allred, John Park, State board medical examiners, 1878, Troy.
Carlisle, Charles M., certificate county board, 1878, Milo.
Collier, James Marshall, medical college of Virginia, 1860, Troy.
Beard, James M., college not given, Monticello.
Davis, Thomas J., certificate county board, 1878, Goshen Hill.
Davis, Robert H., certificate county board, 1878, Goshen Hill.
Dennis, L. H., Graffenburg Institute, 1858, Olustee.
Foreman, Henry, medical college South Carolina, 1859, Brundige.
Hamil, Irby, W., Louisville medical college, 1876, Goshen Hill.
Mason, Joseph C., Bellevue Hospital medical college, 1881, Orion.
Russell, James T., University of New York, 1849, Troy.
Townsend, A. C., college not given, China Grove.
Wilson, William F., Georgia medical college, 1867, Henderson.

Retired from practice—Dr. W. S. Martin, graduate of Jefferson medical college, 1844, Linwood.

Dropped from the roll for non-payment of dues—Dr. Charles McLevean, medical college of South Carolina, Brundige, and J. C. Mason, of Orion.

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IRREGULAR PRACTITIONERS IN THE COUNTY.

Bledsoe, William, (Botanic), certificate county board, 1881, Troy.
Treadwell, L. M., (Botanic), certificate county board, 1881, Troy.

Removed from the county—Charles M. Cutts, irregular, formerly of China Grove, to Montgomery county; Barney F. Ivey, formerly of Orion, to Tuskegee.

Moved into the county—Dr. James M. Beard, from Bullock county, to Monticello; Dr. William F. Wilson, from Stuart county, Georgia, to Henderson.

Dr. James M. Beard, of Henderson, was admitted to practice medicine upon certificate of Bullock county medical board, without examination.

Certificate to practice medicine was issued *pro forma* to Dr. James T. Russell.

Certificate to sell drugs was issued to Dr. B. A. Steel, of Henderson.

No death during the year.

RANDOLPH COUNTY MEDICAL SOCIETY.

President—Wilson L. Heflin, M. D., Louina.
Secretary—Powhatan G. Trent, M. D., Rock Mills.
President of the Board Censors—Powhatan G. Trent, M. D., Rock Mills.
County Health Officer—Wilson L. Heflin, M. D., Louina.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Davis, Samuel John, Atlanta medical college, 1882, Roanoke.
Gauntt, Elbert Tilman, Atlanta medical college, 1878, Wedowee.
Heflin, Wilson L., Georgia medical college, Louina.
Liles, Jasper David, University of Louisville, 1870, Louina.
Pool, Wyatt Heflin, Georgia medical college, 1867, Roanoke.
Thomason, Francis Gideon, Southern medical college, 1881, Wedowee.
Trent, Powhatan Green, Jefferson medical college, 1867, Rock Mills.
White, William E., Transylvania University, 1840, Roanoke.
Membership—8.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Crowder, D. G., Graffenburg Institute, Rock Mills.
Duke, A. W., Graffenburg Institute, Lamar.
Liles, M. D., non-graduate, Christiana.
McClendon, E. H., Graffenburg Institute, Rock Mills.
Taylor, C. B., Graffenburg Institute, Rock Mills.
White, L. L., non-graduate, Roanoke.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Vinegard, J. L., (Botanic) Rock Mills.

Dr. John Wesley DeVaughn, of Roanoke, graduate of Vanderbilt Uni-

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versity, class of 1883, passed a successful examination before the county board, and was admitted to practice.

Removed from the county—Drs. Samuel N. Hamner, of Wedowee, to Texas; John W. DeVaughn, of Roanoke, to Mill Town, Chambers county; and Winston C. Wood, to Arbacoochee, Cleburne county.

Dr. Henry Walls, who moved from the county last year, has returned and resumed practice.

No deaths during the year.

SHELBY COUNTY MEDICAL SOCIETY.

President—Joseph R. Morgan, M. D., Knight.
Secretary—James H. Gunn, M. D., Calera.
President of the Board of Censors—Joseph R. Morgan, M. D., Knight.
County Health Officer—William B. Meredith, M. D., Montevallo.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Aker, James Wilson, certificate county board, Montevallo.
Backus, Henry, certificate county board, Calera.
DuBose, Wildes Scott, Atlanta medical college, Columbiana.
Edwards, David, Georgia medical college, Wilsonville.
Goodson, Jasper, certificate county board, Longview.
Gunn, James Hamlin, Bellevue Hospital medical college, Calera.
Hawkins, Richard Nathaniel, Miama medical college, Calera.
Johnson, Joshua Orsley, University of Louisiana, Shelby Iron Works.
Meredith, William Bell, Alabama medical college, Montevallo.
Morgan, Joseph Reid, University of Louisville, Knight.
Oliver, Charleton C., Atlanta medical college, Calera.
Membership—11.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Cross, William Betta, certificate county board, Helena.
Davis, Ralph, Georgia medical college, Montevallo.
Fields, James Guthrie, certificate county board, Calera.
Giddings, Henry Downes, medical college of South Carolina, Shelby Iron Works.
Hubbard, Richard Walter Darwin, University of Louisville, Columbiana.
Johnson, Joseph, Miami medical college, Pelham.
Johnson, William R. King, Atlanta medical college, Pelham.
McAdams, Henry Clay, Atlanta medical college, Shelby Iron Works.
McCraw, Allen Edwin, University of Louisiana, Harpersville.
Moore, Wiley Evan, Atlanta medical college, Bridgeton.
Singleton, William Robert, certificate county board, Harpersville.
Tucker, Robert Milton, Georgia medical college, Helena.
Weldon, George Andrew, Atlanta medical college, Weldon.
Williams, John Harford, University of Louisville, Columbiana.

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IRREGULAR PRACTITIONERS IN THE COUNTY.

Armstrong, Warren M., (Botanic) certificate county board, Knight.
Griffin, Alpheus, (Botanic) certificate county board, Helena.

Drs. W. B. Cross, of Helena; J. G. Fields, of Calera; R. W. D. Hubbard, of Columbiana; W. R. K. Johnson, of Pelham; A. E. McGraw, of Harpersville; W. R. Singleton, of Harpersville, and J. H. Williams, of Columbiana, were dropped from the roll for non-payment of dues..

Removed into the county—Dr. C. C. Oliver, formerly of Calera, but recently of Trenton, Louisiana, post-office unknown.

Dr. Henry Clay McAdams, graduate of the Alabama medical college, was received through certificate of the Mobile county board, and now resides at Shelby Iron Works.

There has been no death, nor examination during the year.

ST. CLAIR COUNTY MEDICAL SOCIETY.

President—John W. Ash, M. D., Beaver Valley.
Secretary—W. F. Vandergrift, M. D., Branchville.
President of the Board of Censors—Davis E. Cason, M. D., Ashville.
County Health Officer—Davis E. Cason, M. D., Ashville.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Ash, John W., University of Louisiana, Beaver Valley.
Bass, John B., Washington University, Baltimore, Ashville.
Cason, Davis Elmore, University of Nashville, Ashville.
Chandler, E. P., certificate county board, Cropwell.
Crump, Henry G., certificate county board, Ferryville.
Crump, J. W., Atlanta medical college, Steel's Depot.
Foster, Robert J., certificate county board, Branchville.
McConnell, Robert Franklin, Southern medical college, Steel's Depot.
McLaughlin, James Madison, State board medical examiners, Springville.
McClendon, Charles F., certificate county board, Springville.
Robinson, Joseph B., Vanderbilt University, Easonville.
Sampler, Robert J., certificate county board, Caldwell.
Vandergrift, Washington F., University of Louisiana, Branchville.
Membership—13.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Brewster, H. H., certificate county board, Greensport.
Cason, J. C., Memphis medical college, Broken Arrow.
Dunlap, P. G., Vanderbilt University, Eden.
Evans, M. M., Vanderbilt University, Broken Arrow.
Evans. R. P., certificate county board, Broken Arrow.
Inzer, J. G., Louisville medical college, New London.
Jones, G. M., Jefferson medical college, Springville.

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IRREGULAR PRACTITIONERS IN THE COUNTY.

Dickinson, W. H., Eclectic medical college, Moody's.
Thompson, G. M., Eclectic medical college, Trout Creek.

Drs. Dickson and Thompson applied for examination before the county board and were rejected, and are now practicing in violation of law.

Removed from the county—Drs. Benjamin F. Clayton, of Springville, to Jefferson county; W. H. Harrison, of Easonville, to Talladega county; W H O'Hara, of Easonville, to Texas.

Moved into the county—Dr. J. C. Cason, graduate Memphis medical college, and M. M. Evans, graduate Vanderbilt University, both of Broken Arrow.

Dr. Benjamin F. Clayton, of Springville, passed a successful examination before the county board, and was admitted to practice.

SUMTER COUNTY MEDICAL SOCIETY.

President—Henry B. Ward, M. D., Cuba.
Secretary—Robt. D. Webb, M. D., Livingston.
President of the Board of Censors—James M Godfrey, M. D., Sumterville.
County Health Officer—R. D. Webb, M. D., Livingston.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Arrington, R. H., University of Louisiana, 1850, Livingston.
Bourdeaux, J. D., Louisville medical college, 1883, York.
Brockway, Dudley Samuel, Alabama medical college, 1878, Jefferson medical college, 1883, Coatopa.
Crocker, J. W., certificate county board, 1878, Coatopa.
Forster, J. G., University of Louisiana, 1866, Livingston.
Gilmer, J. N., certificate county board, 1878, Gaston.
Godfrey, James Myers, University of Pennsylvania, 1855, Sumterville.
Hawley, John B., Georgia medical college, 1858, Belmont.
Henson, John M., Philadelphia medical college, 1854, Coatopa.
Houston, John C., New Orleans school of medicine, 1860, Belmont.
James, William Henry, certificate county board, 1878, York.
Kelley, William P., Alabama medical college, 1882, Ramsey.
Moore, A. E., certificate county board, 1878, York.
Nash, J. T., Louisville medical college, 1880, Livingston.
Parham, John Calhoun, Kentucky school of medicine, Gainesville.
Randall, N. F., University of Nashville, 1878, Sumterville.
Ward, Henry Bascom, Alabama medical college, 1878, Cuba.
Webb, Robert Dickens, University of Virginia, 1850, Livingston.
Membership—18.

HONORARY MEMBERS.

Estelle, S. H., licensed under the old law, 1852, Blount Springs.
Garber, A. M., Transylvania University, 1835 (retired), Livingston.

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Giles, J. H., University of Louisville, 1847 (retired), Cuba.
Sholl, Edward Henry, Pennsylvania medical college, 1856, Birmingham.
Smith, Carlos G., Pennsylvania University (retired), Livingston.

MEMBERS ELECT, BUT NOT ENROLLED.

Hearn, W. T., Louisville medical college, 1882, Gaston.
Vaughn, A. S., Louisville medical college, 1884, York.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bickley, Thomas J., Vanderbilt University, 1879, Gainesville.
Graves, A. G., University of Maryland, Baltimore, 1844, Warsaw.
Hale, R. H., Louisville medical college, 1879, York.
Hand, S. P., University of Louisiana, 1884, Cuba.
Marshall, J. B., University of Nashville, 1872, Warsaw.
Pinson, Hammet, New Orleans school of medicine, Gainesville.
Silliman, C. N., University of Louisiana, Ramsey.
Washington, B. B., Cincinnati medical college, 1839, Scooba, Mississippi.

REGULAR PHYSICIANS RETIRED FROM PRACTICE.

Epes, John W., Jefferson medical college, 1856, Epes.
Harris, R. M., Jefferson medical college, 1856, Summerfield.
Williams, D. H., college not ascertained, 185-, Gainesville.

Drs. Amos Lemuel Vaughn, graduate of the Louisville medical college, class of 1884, York; and Samuel Patton Hand, graduate University of Louisville, class of 1884, Cuba, passed successful examinations before the county board and were admitted to practice.

Removed from the county—Drs. R. B. Ward, formerly of Gaston, to Pushmataha, Choctaw county; J. F. Moore, formerly of Belmont, to Autaugaville, Autauga county; R. C. Gillespie, post-office not known.

There are no irregular practitioners in the county.

TALLAPOOSA COUNTY MEDICAL SOCIETY.

President—Robert V. Salmon, M. D., Dadeville.
Secretary—James A. Goggans, M. D., Alexander City.
President of the Board of Censors—John F. Shepard, M. D., Dadeville.
County Health Officer—James A. Goggans, M. D., Alexander City.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Aiken, James C., Graffenburg Institute, Eufaula.
Banks, Wilson L., Graffenburg Institute, Jackson's Gap.
Carleton, W. G., Vanderbilt University, Dudleyville.
Colsy, Andrew Jackson, Jefferson medical college, 1880, Alexander City.
Freeman, J. S., certificate county board, Alexander City.
Gay, William M., Reform medical college, Atlanta, Georgia, 1881, Davidson.
Goggans, James Adrian, University of New York, 1877, Alexander City.

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Harlan, John J., Alabama medical college, Hackneyville.
Irvin, William F., Jefferson medical college, and Louisville medical college, New Site.
Johnston, John Y., Graffenburg Institute, Walnut Hill.
Lightfoot, Robert W., medical college of South Carolina, Alexander City.
Nolen, Abner Jackson, Louisville medical college, 1880, New Site.
Pharr, Edward Miller, Vanderbilt University, 1882, Zana.
Salmon, Robert V., Alabama medical college, Dadeville.
Shepard, John F., Graffenburg Institute, Dadeville.
Shepard, J. Joseph, Graffenburg Institute, Dadeville.
Shepard, O. Tyler, Graffenburg Institute, Dadeville.
Smith, William F., Graffenburg Institute, Reel Town.
Vines, George Washington, University of Louisiana, Dadeville.
Watkins, John M., University of Louisiana, Camp Hill.
Membership—20.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bloodworth, Hiram M., certificate county board, New Site.
Gray, Thomas M., certificate county board, Dadeville.
Ragan, Onslow, certificate county board, Alexander City.
Shepard, Peter M., Graffenburg Institute, Dadeville.
Smith, James B., certificate county board, Hackneyville.
Tucker, Adolphus O., certificate county board, Bulger's Mills.
Walker, George W., certificate county board, Alexander City.
Ward, Lucius C., certificate county board, Daviston.

IRREGULAR PRACTITIONERS IN THE COUNTY.

Sorrell, William M. (Botanic), certificate county board, Alexander City.

Died—Joseph C. McLendon, M. D., graduate of the Albany (N. Y.) medical college, Alexander City.

There were no removals from the county; no application for examination, and no certificate issued.

TUSKALOOSA COUNTY MEDICAL SOCIETY.

President—James T. Searcy, M. D., Tuskaloosa.
Secretary—B. Leon Wyman, M. D., Tuskaloosa.
President of the Board of Censors—Wm. A. Cochrane, M. D., Tuskaloosa.
County Health Officer—James L. Williams, M. D., North Port.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Allen, A. S., Atlanta medical college, Cottondale.
Beatty, D. P., University of New York, Tuskaloosa.
Bryce, Peter, University of New York, Tuskaloosa.
Caffee, Samuel F., Missouri medical college, Coaling.
Cochrane, William A., University of Pennsylvania, Tuskaloosa.

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Foster, David L., Jefferson medical college, Tuskaloosa.
Guild, James, Jr., Jefferson medical college, Tuskaloosa.
Harris, Erastus Gracey University of Pennsylvania, Tuskaloosa.
Hester, William, University of New York, Tuskaloosa.
Little, John, Jr., University of Louisiana, Tuskaloosa.
Little, James, Atlanta medical college, Tuskaloosa.
Lucius, R. D., Atlanta medical college, Hickman.
Marlow, Nicholas P., Jefferson medical college, Tuskaloosa.
Neilson, Robert, Georgia medical college, North Port.
Nichols, A. B. C., Philadelphia medical college, Sylvan.
Owen, William M., Atlanta medical college, Green Pond.
Reed, John B. University of Louisiana, Tuskaloosa.
Searcy, Reuben, Transylvania University, Tuskaloosa.
Searcy, James Thomas, University of New York, Tuskaloosa.
Sims, Frank H., Southern medical college, Tuskaloosa.
Trigg, A. W., Alabama medical college, North River.
Trimm, James, Alabama medical college, North Port.
Williamson, James L., Alabama medical college, North Port.
Wyman, B. Leon, University of New York, Tuskaloosa.
Membership—24.

NON-GRADUATE PRACTITIONERS.

Caldwell, W. J., certificate county board, Hull's Station.
Clements, Alsey, certificate county board, Cottondale.
Crump, William, certificate county board, Marcumville.
Elrod, W. W., certificate county board, Sipsey.
Gregory, C. C., certificate county board, Hickman.
McCord, C. R., certificate county board, North Port.
Thompson, J. W., certificate county board, Tuskaloosa.
Toomey, M. A., certificate county board, Clement's Station.
Vance, William, certificate county board, Vance Station.

There are no irregular practicioners in the county.

Removed from the county—Dr. C. R. Sexton, formerly of Cottondale, to Anniston, Calhoun county; Dr. William T. Parker, formerly of Sylvan, to Louisiana.

Dr. Frank H. Sims, graduate of the Southern medical college of Atlanta, Georgia, class of 1883, passed a successful examination before the county board and was admitted to practice.

The following persons were licensed to dispense and sell drugs: D. L. Foster and Sterling Foster, of Tuskaloosa, Jethro Raiford, of Tuskaloosa, W. E. Bingham, of North Port.

Died—Dr. James Guild, Sr., of Tuskaloosa, Transylvania University, 1821, of cerebral hemorrhage, February 12th, 1884.

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WALKER COUNTY MEDICAL SOCIETY.

President—John Manasco, M. D., Loss Creek.
Secretary—Andrew M. Stovall, M. D., Jasper.
President of the Board of Censors—Joseph A. Goodwin, M. D., Jasper.
County Health Officer—William L. Gravlee, M. D., Rising Sun.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Camack, D. H., certificate county board, 1872, South Lowell.
Cunningham, William M., Vanderbilt University, 1884, Arkadelphia.
Goodwin, Joseph Anderson, Alabama medical college, 1874, Jasper.
Gravlee, William L., Vanderbilt University, 1882, Rising Sun.
Griffin, Robert P., certificate county board, 1872, York.
Guilder, James L., college not given, Eldridge.
Hays, J. S., certificate county board, Dent.
Hendon, Albert L., certificate county board, 1875, Holly Grove.
Lin, J. W., Atlanta medical college, 1860, Manasco.
Manasco, John, certificate county board, Loss Creek.
Phillips, A. B., Vanderbilt University, 1883, Arkadelphia.
Stovall, Andrew McAdams, Louisville medical college, 1880, Jasper.
Membership—12.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Mathews, J. W., Georgia medical college, Dent.

Removed from the county—Drs. Newton B. Haney, formerly of Jasper, to Millsap, Park county, Texas; and V. M. Miller, formerly of Holly Grove, to Fayette county.

Dr. L. C. Miller, of Holly Grove, was dropped from the roll for non-payment of dues.

Dr. A. B. Phillips, graduate of Vanderbilt University, class of 1883, passed a successful examination before the county board and was admitted to practice.

WILCOX COUNTY MEDICAL SOCIETY.

President—Alexander C. Matheson, M. D., Camden.
Secretary—Edward D. McDaniel, M. D., Camden.
President of the Board of Censors—Alexander C. Matheson, M. D., Camden.
County Health Officer—Alexander C. Matheson, M. D., Camden.

NAMES OF MEMBERS, WITH THEIR COLLEGES AND POST-OFFICES.

Abernethy, William Henry, Alabama medical college, 1875, Sedan.
Adams, David, Georgia medical college, 1853, Pine Apple.
Bonner, James Isaac, Alabama medical college, Rose Bud.
Bonner, Joseph Hearst, medical college of South Carolina, 1847, Rose Bud.

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Crum, Floyd Edward, University of Louisiana, 1873, Dumas' Store.
Curtis, Alphonzo Bittle, Alabama medical college, 1882, Lower Peach Tree.
Curtis, Christopher Columbus, Alabama medical college, 1872, Lower Peach Tree.
Dansby, John Quincy, Alabama medical college, Rehoboth.
Gaston, David Finis, University of Louisiana, 1882, Boiling Springs.
Haddox, William Thomas, University of Louisiana, 1858, Clifton.
Harris, Albert Duggett, medical college of South Carolina, 1857, Allenton.
Jenkins, Luckie Walker, University of Louisiana, 1849, Camden.
Jenkins, Thomas Griffin, University of Louisiana, 1849, Camden.
Jones, Capers Capehart, Philadelphia University of medicine and Surgery, 1870, Snow Hill.
Jones, DeVotie Dennis, University of Maryland, 1882, Snow Hill.
Jones, John Paul, New Orleans school of medicine, 1861, Camden.
Jones, Joseph Harvey, Louisville medical college, 1880, Rose Bud.
Jones, Samuel Oliver, Alabama medical college, 1883, Allenton.
Lee, Thomas, medical college of South Carolina, 1857, Snow Hill.
Matheson, Alexander C., medical college of South Carolina, 1842, Camden.
McDaniel, Edward Davies, medical college of South Carolina, 1857, Camden.
Purnell, William Thomas, Alabama medical college, 1876, Prairie Bluff.
Ramsey, David Wardlaw, University of Louisiana, 1870, Pine Apple.
Roach, Thomas, Alabama medical college, 1873, Rehoboth.

Membership—24.

REGULAR PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Dansby, Daniel A., certificate county board, Rehoboth.
Gaillard, Edmund S., medical college of South Carolina, 1840, Camden.

Removed from the county—Dr. Edward Dock King, formerly of Camden, and graduate of the Alabama medical college, class of 1881, post-office not known.

There are no irregular practitioners or specialists in the county.

No examinations to commence the study of medicine, or the practice of medicine, have been reported by the county board of medical examiners.

THE ROLL OF THE COLLEGE OF COUNSELLORS.

REVISION OF 1884.

THE GRAND SENIOR COUNSELLORS.

ANDERSON, WILLIAM HENRY, Mobile, Mobile county.....1873
BRYCE, PETER, Tuskaloosa, Tuskaloosa county.....1873
COCHRAN JEROME, Mobile, Mobile county.....1873
DEMENT, JOHN JEFFERSON, Huntsville, Madison county.....1873

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GAINES, EDMUND PENDLETON, Mobile, Mobile county.....1873
GODFREY, JAMES MYERS, Sumterville, Sumter county.....1873
JACKSON, WALTER CLARKE, Montgomery, Montgomery county.....1873
JACKSON, ROBERT DANDRIDGE, Summerfield, Dallas county.....1873
JORDAN, MORTIMER HARVEY, Birmingham, Jefferson county.....1873
KETCHUM, GEORGE AUGUSTUS, Mobile, Mobile county.....1873
MCDANIEL, EDWARD DAVIES, Camden, Wilcox county.....1873
MCKITTRICK, ADAM ALEXANDER, Evergreen, Conecuh county.....1873
MICHEL, RICHARD FRASER, Montgomery, Montgomery county.....1873
REESE, AUGUSTUS JORDAN, Mobile, Mobile county.....1873
RIGGS, BENJAMIN HOGAN, Selma, Dallas county.....1873
STARR, LUCIUS ERNEST, Camden, Wilcox county.....1873
TOXY, CALEB, Mobile, Mobile county.....1873
WEATHERLY, JOB SOBIESKI, Montgomery, Montgomery county.....1873
WEBB, ROBERT DICKENS, Livingston, Sumter county.....1873

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THE SENIOR COUNSELLORS.

ABERNETHY, WILLIAM HENRY, Sedan, Wilcox county.....1875
BALDRIDGE, MILTON COLUMBUS, Huntsville, Madison county.....1878
BEVANS, JOSEPH, Gadsden, Etowah county.....1878
CROSS, BENJAMIN FRANKLIN, Decatur, Morgan county.....1879
FURNISS, JOHN PERKINS, Selma, Dallas county.....1876
GAINES, VIVIAN PENDLETON, Mount Sterling, Choctaw county.....1879
GASTON, JOHN BROWN, Montgomery, Montgomery county.....1875
HOFFMAN, JOHN RICHARDSON, Athens, Limestone county.....1879
HOGAN, SAMUEL MARDIS, Union Springs, Bullock county.....1875
HOPPING, DANIEL STILES, Letohatchie, Lowndes county.....1877
JOHNSTON, WILLIAM HENRY, Selma, Dallas county.....1875
LEE, JOHN COOPER, Blount Springs, Blount county.....1877
MCKINNON, JOHN ALEXANDER, Selma, Dallas county.....1874
MEANS, THOMAS ALEXANDER, Montgomery, Montgomery county.....1878
MITCHELL, WILLIAM AUGUSTUS, Eufaula, Barbour county.....1878
PARKE, CLIFFORD DANIEL, Selma, Dallas county.....1875
PARHAM, JOHN CALHOUN, Gainesville, Sumter county.....1879
PHILLIPS, WILLIAM CRAWFORD, Selma, Dallas county.....1879
PRINCE, FRANCIS MARION, Jonesboro, Jefferson county.....1877
PRITCHETT, JOHN ALBERT, Hayneville, Lowndes county.....1876
PURNELL, WILLIAM THOMAS, Prairie Bluff, Wilcox county.....1879
SANDERS, CHARLES PEAK, Pleasant Ridge, Greene county.....1879
SANDERS, WILLIAM HENRY, Mobile, Mobile county.....1878
SEARS, JOHN WILLIAM, Birmingham, Jefferson county.....1877
SEELYE, SAMUEL DIBBLE, Montgomery, Montgomery county.....1875
THIGPEN, JOB, Greenville, Butler county.....1879

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THE JUNIOR COUNSELLORS.

Barclay, James Paxton, Eutaw, Greene county.....1880
Bowie, Andrew, Benton, Lowndes county.....1883
Brockway, Dudley Samuel, Coatopa, Sumter county.....1882
Brown, George Washington, Pratt Mines, Jefferson county.....1880
Brown, Pugh H., Troy, Pike county.....1880
Caffey, Hugh William, Hayneville, Lowndes county.....1881
Cason, Davis Elmore, Ashville, St. Clair county.....1880
Cross, William Cyprian, Centreville, Bibb county.....1882
DuBose, Wilds Scott, Columbiana, Shelby county.....1881
Emory, Aurelius Grigsby, Opelika, Lee county.....1883
Franklin, Charles Higgs, Union Springs, Bullock county.....1882
Goggans, James Adrian, Alexander City, Tallapoosa county.....1883
Goodwin, Joseph Anderson, Jasper, Walker county.....1882
Gordon, Frederick Elliott, Linden, Marengo county.....1883
Hawkins, Richard Nathaniel, Montevallo, Shelby county.....1882
Hayes, Robert Hughes, Union Springs, Bullock county.....1880
Hendrick, Gustavus, Brundige, Pike county.....1881
Heustis, James Fountain, Mobile, Mobile county.....1881
Hill, Samuel Henry, Carrollton, Pickens county.....1882
Holt, Simon Augustus, Eufaula, Barbour county.....1883
Jay, Andrew, Jr., Evergreen, Conecuh county.....1882
Jones, Capers Capehart, Snow Hill, Wilcox county.....1881
Kendrick, Joel Cloud, Greenville, Butler county.....1882
Kendrick, William Thomas, Greenville, Butler county.....1881
Luckie, James Buckner, Birmingham, Jefferson county.....1882
McAllister, William Thomas, Marion, Perry county.....1880
Moody, Joseph, Bridgeville, Pickens county.....1882
Morgan, Isaac DuBose, Eutaw, Greene county.....1880
Mushat, John Patrick, Hayneville, Lowndes county.....1881
Pearce, John Washington, Oxford, Calhoun county.....1883
Peterson, Francis Marion, Greensboro, Hale county.....1880
Robertson, Thaddeus Lindlay, Oxford, Calhoun county.....1881
Rorex, James Polk, Scottsboro, Jackson county.....1880
Sawyer, William Templeman, Whistler, Mobile county.....1882
Shivers, Offa Lunsford, Newbern, Hale county.....1882
Sholl, Edward Henry, Birmingham, Jefferson county.....1880
Sledge, William Henry, Jefferson, Marengo county.....1882
Smith, Daniel Edgarly, Mobile, Mobile county.....1882
Smith, Samuel Parish, Prattville, Autauga county.....1881
Stovall, Andrew McAdams, Jasper, Walker county.....1882
Tipton, Frank, Selma, Dallas county.....1882
Wall, Conrad, Forest Home, Butler county.....1880
Ward, Henry Bascom, Cuba, Sumter county.....1883
Watson, Charles McAlpine, Eutaw, Greene county.....1883
Wilkerson, Wooten Moore, Montgomery, Montgomery county.....1883
Wright, Milton Roil, Gadsden, Etowah county.....1880

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THE COUNSELLORS ELECT.

GILMER, ABRAM BESSENT, Butler, Choctaw county.
GUNN, JAMES HAMLIN, Calera, Shelby county.
HUGER, RICHARD PROCTOR, Anniston, Calhoun county.
HUGGINS, ISAAC, Newbern, Hale county.
JONES, JOHN PAUL, Camden, Wilcox county.
KING, GOLDSBY, Selma, Dallas county.
SEARCY, JAMES THOMAS, Tuskaloosa, Tuskaloosa county.
TRENT, POWHATAN GREEN, Rock Mills, Randolph county.
WILLIAMS, CHARLES WASHINGTON, Allsborough, Colbert county.

Grand Senior Counsellors.....19
Senior Counsellors.....26
Junior Counsellors.....46
Counsellors Elect..... 9—100

THE ROLL OF THE CORRESPONDENTS.

REVISION OF 1884.

BIZZELL, WILLIAM DAVID, M. D., Atlanta, Georgia.....1881
COLEMAN, RUFFIN, M. D., Clarksville, Tennessee.....1879
GARNETT, A. F., M. D., Hot Springs, Arkansas.....1875
KUMPE, GEORGE ERNEST, M. D.. White Sulphur Springs, Montana Ter..1884
LYNCH, JOHN F., M. D., Baltimore, Maryland.....1874
MOSES, GRATZ A., M. D., St. Louis, Missouri.....1874
PHILLIPS, N. D., M. D., Gainesville, Florida.....1876
RICHARDSON, NICHOLAS DAVIS, M. D., Nashville, Tennessee.....1882
ROSS, FRANCIS ARMSTRONG, M. D., Mobile, Alabama.....1884
SUMMERS, THOMAS O., M. D., Nashville, Tennessee.....1875

THE ROLL OF THE OFFICERS.

REVISION OF 1884.

PRESIDENT.

BENJAMIN HOGAN RIGGS, M. D.....Selma.

VICE-PRESIDENTS.

PUGH H. BROWN, M. D.....Troy
JOB THIGPEN, M. D.....Greenville.

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SECRETARY.

THOMAS ALEXANDER MEANS, M. D.....Montgomery.

(Re-elected at Birmingham, 1883.)

TREASURER.

WALTER CLARKE JACKSON, M. D.....Montgomery.

Re-elected at Birmingham, 1883.)

THE BOARD OF CENSORS AND COMMITTEE OF PUBLIC HEALTH.

PETER BRYCE, Tuskaloosa	time	ends	1889
WILLIAM HENRY JOHNSTON, Selma	"	"	1889
JEROME COCHRAN, (Senior Censor) Mobile	"	"	1888
FRANCIS MARION PETERSON, Greensboro	"	"	1888
JOB SOBIESKI WEATHERLY, Montgomery	"	"	1887
JOHN RICHARDSON HOFFMAN, Athens	"	"	1887
SAMUEL DIBBLE SEELYE, Montgomery	"	"	1886
WILLIAM HENRY SANDERS, Mobile	"	"	1886
JOHN JEFFERSON DEMENT, Huntsville	"	"	1885
GEORGE AUGUSTUS KETCHUM, Mobile	"	"	1885

ORATOR.

JAMES THOMAS SEARCY, M. D.....Tuskaloosa.

ALTERNATE ORATOR.

ANDREW BOWIE, M. D.....Benton.

STATE HEALTH OFFICER.

JEROME COCHRAN, M. D.....Montgomery.

PLACE OF MEETING—GREENVILLE.

Time of meeting, second Monday in April, 1885.

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THE SCHEDULE OF THE REGULAR REPORTERS.

SESSION OF 1885.

MILTON COLUMBUS BALDRIDGE, M. D., Huntsville—
The Poisonous Effects of Tobacco.

WILLIAM CYPRIAN CROSS, M. D., Centerville—
Hog-meat as a Cause of disease, directly and indirectly, in the State of Alabama.

JAMES FOUNTAIN HEUSTIS, M. D., Mobile—
Treatment of Fractures.

BRICE MARTIN HUGHES, M. D., Birmingham—
Scalp Wounds.

FRANCIS MARION PETERSON, M. D., Greensboro—
Dysentery as it occurs near Greensboro, Alabama.

FRANK TIPTON, M. D., Selma—
Medical Progress in the 19th Century.

POWHATAN GREEN TRENT, M. D., Rock Mills—
Ergot in Cardiac Diseases.

HENRY JASPER WINN, M. D., Birmingham—
Fœtal Life.

THE SCHEDULE OF SPECIAL COMMITTEES.

COMMITTEE ON COLOR-BLINDNESS:

Drs. Edward H. Sholl, of Birmingham; Robert D. Webb, of Livingston, and William H. Sanders, of Mobile.

This committee, appointed at the Mobile Session, 1882, to act in conjunction with the Board of Censors in endeavoring to secure some appropriate legislation from the next General Assembly in regard to color-blindness, submitted a written report at the Selma Session, 1884, and was continued for another year.

COMMITTEE ON DR. CHARLES WHELAN'S PAPER:

Drs. Francis M. Peterson of Greensboro; Charles Whelan of Birmingham, and William H. Johnston of Selma.

This committee was appointed at the Selma Session, 1884, to consider and report on Dr. Whelan's paper, with special reference to a fuller collection of vital data, at the next meeting of the Association, 1885.

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COMMITTEE ON ETHICAL RELATIONS BETWEEN PHYSICIANS AND DRUGGISTS:

Drs. Edward H. Sholl, of Birmingham; Isaac Huggins, of Newbern, and Francis M. Peterson, of Greensboro.

This committee was appointed at the Selma Session, 1884, to consider what means are best to promote and sustain the proper ethical relations between Physicians and Druggists, with a view of reporting the result of their conclusions at the next Annual Session, 1885.

THE SCHEDULE OF THE ANNUAL SESSIONS SINCE THE REORGANIZATION IN 1868.

1868.....Selma—Albert Gallatin Mabry.....1868
1869.....Mobile—Albert Gallatin Mabry.....1869
1870.....Montgomery—Richard Fraser Michel.....1870
1871.....Mobile—Francis Armstrong Ross.....1871
1872.....Huntsville—Thomas Childress Osborn.....1872
1873.....Tuskaloosa—George Ernest Kumpe.....1873
1874.....Selma—George Augustus Ketchum.....1874
1875.....Montgomery—Job Sobieski Weatherly.....1875
1876.....Mobile—John Jefferson Demeut.....1876
1877.....Birmingham—Edward Davies McDaniel.....1877
1878.....Eufaula—Peter Bryce.....1878
1879.....Selma—Robert Dickens Webb.....1879
1880.....Huntsville—Edmund Pendleton Gaines.....1880
1881.....Montgomery—William Henry Anderson.....1881
1882.....Mobile—John Brown Gaston.....1882
1883.....Birmingham—Clifford Daniel Parke.....1883
1884.....Selma—Mortimer Harvey Jordan.....1884.

THE SCHEDULE OF THE ANNUAL ORATORS.

1869.....John Brown Gaston—Mobile session.....1869
1870.....George Augustus Ketchum—Montgomery session....1870
1871.....William Henry Anderson—Mobile session.....1871
1872.....Job Sobieski Weatherly—Huntsville session.....1872
1873.....Mortimer Harvey Jordan—Tuskaloosa session.....1873
1874.....Samuel Dibble Seelye—Selma session.....1874
1875.....George Augustus Ketchum—Montgomery session....1875
1876.....Richard Fraser Michel—Mobile session.....1876
1877.....Edmund Henry Fournier—Birmingham session.....1877
1878.....Benjamin Hogan Riggs—Eufaula session.....1878
1879.....William Augustus Mitchell—Selma session.....1879
1880.....Paul DeLacy Baker—Huntsville session.....1880
1881.....Milton Columbus Baldridge—Montgomery session....1881

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1882.....Peter Bryce—Mobile session.....1882
1883.....Edward Henry Sholl—Birmingham session.....1883
1884.....William Henry Sanders—Selma session.....1884

THE OBITUARY RECORD.

AUTAUGA COUNTY—Died, Sept. 15th, 1883, Duncan McNeil, M. D., Autaugaville, graduate of the Kentucky school of medicine.

BARBOUR COUNTY—Died, July 7th, 1883, Paul DeLacy Baker, M. D., Eufaula, graduate of the Georgia medical college, and senior counsellor of the medical association of the state of Alabama.

BIBB COUNTY—Died, R. R. McPherson, M. D., Day's Mills, graduate of Vanderbilt university.

BULLOCK COUNTY—Died, G. A. Tompkins, M. D., Mt. Hilliard, graduate of Jefferson medical college, 1837.

CONECUH COUNTY—Died, Andrew J. Robison, M. D., Brooklyn, graduate of the Atlanta medical college, 1859.

COOSA COUNTY—Died, Jan. 12th, 1884, of cerebral hemorrhage, Joseph Marshal Lennard, M. D., Nixburg, graduate of Jefferson medical college, and president of the board of censors of Coosa county.

GREENE COUNTY—Died, Jubal Carpenter, M. D., Eutaw, graduate of the Atlanta medical college, 1859, and honorary member of the Greene county medical society.

LOWNDES COUNTY—Died. Dec. 14th, 1883, of dysentery, Edward Hill Pritchett, M. D., Hayneville, graduate of the university of Pennsylvania, 1842.

MOBILE COUNTY—Died Feb. 13th, 1884, of pneumonia, age 50, Edward Henry Founier, M. D., Mobile, graduate of the university of Louisiana, 1859; grand senior counsellor of the medical association of the state of Alabama; professor of materia medica in the Alabama medical college; clinical lecturer at the city hospital, Mobile; member of the board of health of Mobile, and county health officer.

MONTGOMERY COUNTY—Died, Camillus Llewellyn Pinkston, M. D., Mt. Meigs, graduate of the medical department of the university of Maryland, 1868.

TALLAPOOSA COUNTY—Died, Joseph C. McLendon, M. D., Alexander City, graduate of the Albany (N. Y.) medical college.

TUSKALOOSA COUNTY—Died, Feb. 12th, 1884, of cerebral hemorrhage, James Guild, Sr., M. D., Tuskaloosa, graduate of the Transylvania university, 1821.

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THE APPENDIX

OF

MEDICAL & SANITARY DISSERTATIONS & REPORTS.

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THE ANNUAL ORATION.

BY WILLIAM H. SANDERS, M. D., OF MOBILE,

Senior Counsellor of the Medical Association of Alabama; Censor and Member of the Committee of Public Health, M. A. S. A.; Member of the Medical Society of Mobile County; Professor of Opthalmology and Histology in the Medical College of Alabama.

Fellow-Members of the Medical Association of Alabama, Ladies and Gentlemen:

No profounder problems have ever engaged, or can engage, the study of statesmen and philosophers than those involving the relations which man should sustain to his fellow-man and to the government of which he is a subject. These relations are obviously manifold and important, comprehending, as they do, the duties and obligations of man to man in their widest application, on the one hand, and the powers and functions of government in all their details, on the other.

The history of the world is largely but the story of struggles that have arisen in forum and field for the adjustment of these relations, and in proportion to the wisdom and equity of that adjustment has society been pure and progressive and government philosophic and beneficent.

Further, in the perfection of social and governmental institutions lies the path that leads to the highest mental and physical development of man; for, however mysterious and inexplicable be the connection of mind and body the facts of their mutual relationship and parallel growth, as applied to large bodies and to races of men, are truths that demand our fullest and most unqualified acceptance.

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The Latin poet, when he wrote the familiar and oft-quoted line—

Mens sana in corpore sano,

announced a great biological and psychological truth—one which science and observation have abundantly verified, and which no society or government that aims to reach the highest plane of usefulness and perfection can afford to ignore or violate.

If soundness of mind and soundness of body be then, as declared, interdependent and inseparable, it manifestly becomes one of the fundamental duties of society and government to provide for the fullest development of each and for the most perfect union of the two.

This short analysis has conducted us to, and clearly pointed out, the position which the science of medicine should occupy in the adjustment of the relations of society and government. It not only assigns to it a position, but one of great scientific and practical responsibility.

Without sound material no architect, be he ever so skillful, can build a solid and beautiful temple. No more is it possible for social philosophy and statesmanship to construct model societies and governments without men for material possessed of sound minds and sound bodies.

It is needless to say that to secure these is the chosen and ceaseless mission of medicine.

If the importance of the position claimed for the science of medicine, as one of the essential factors in the proper organization of society and government, be challenged, it may be abundantly fortified by appealing to the achievements which that science has won in the past.

Such appeal may be richly sustained by borrowing the eloquent words of one of the masters of the English tongue: "It has lengthened life; it has mitigated pain; it has extinguished diseases."

Were this proud array of fruits not enough, I might add: It has explored with amazing minuteness the mysteries of man's own being, has analyzed all the tissues of his body

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and isolated the minute and ultimate cells of which those tissues are composed, wherein are conducted the secret and silent forces of life; it has learned how those little cells that require the keen eye of the microscrope to discern are bound together to constitute organs and systems of wonderful adaptation and design, and how in turn those organs and systems are combined to form the noblest work of God. Led by Harvey it has discovered that vital fountain from which gushes constant and crimson streams of blood that ramify and wind through all the mazy labyrinths of the system, distributing life and warmth and food to its remotest parts; guided by Laennec, it has placed the ear to the chest and heard and interpreted the gentle vesicular murmur within, where air and blood meet to exchange those gaseous elements with which they come freighted; taught by the splendid mathematical genius of Heinreich Helmholtz, it has sent luminous beams into the deepest and inmost recesses of the human eye, and revealing there a picture of bewitching beauty, has shown how disease may shut out those beams forever, and leave all in eternal darkness, or how a steady and skillful hand may in re-opening a darkened eye achieve one of the grandest successes of the healing art; it has followed the waves of sound along the intricate paths they travel to the sensitive chambers of audition, and learned the delicate mechanism of that acoustic apparatus which can adjust itself to the faintest whisper or protect itself against the loudest roar of artillery; utilizing beautiful optical laws it has illumined the interior of the larynx, and seen the precision and rapidity of that alternate advancing and receding, tension and relaxation of the vocal cords that give to the human voice its tones of tender harmony or thrilling eloquence, to melt or rouse the soul; and not resting here, it has ascended to the dome of thought—the palace of the soul—and beheld the wonderful architecture of that royal mansion wherein dwells the KING of all our thoughts, perceptions and volitions.

Familiar with all these organs and systems when moving

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in harmonious order, that same science of medicine stands upon the watch-tower, and, like a faithful sentinel, sounds the first note of alarm at the approach of danger, and armed with agents of relief, devised by its own fertility, is ever ready to send them forth on errands of defense or succor. More, it has taught the hand of the surgeon its cunning to guide the keenest blade safely on its bloody, but beneficent mission, and, like an angel of mercy, is able in the sleep of anæsthesia to rob that edge of its pain and anguish.

These are but a part of the trophies which the science of medicine has won in its long warfare with the secrets of nature, and grand as they are, we may look with prophetic vision to still richer rewards in the future.

I trust I do not overestimate the interest this audience may feel in that science, a few of whose achievements I have briefly rehearsed, in venturing to propose for discussion at this hour—

THE RELATIONS OF THE MEDICAL PROFESSION TO THE STATE AND THE PEOPLE.

The discussion of this subject will be partly general and partly special; the former applying to such relations as should exist at all times and in all places between the medical profession and the state and people; the latter applying to those relations that have been established by and between this state and her people, and the medical profession. It will be seen that the field for discussion is a thoroughly practical one, and will lead us far away from anything rhetorical or showy.

If, however, in the course of the discussion one cord that binds the people and the medical profession together should be touched, whose vibrations shall awaken a deeper sympathy and a more perfect harmony between the two, my aim will have been more than accomplished.

The first question that meets us on the threshold of the discussion is:

Should there be any official relations between a govern-

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ment and the medical profession, as a body; or, in other words, is there any work falling within the jurisdiction of a government which it would be wise and well for it to commit to the medical profession?

Herbert Spencer, in his "Social Statics," argues at considerable length, and not without ability, *against* both the necessity and wisdom of a state organizing the medical profession for any official or corporate work whatever.

He says: "There is a manifest analogy between committing to government guardianship the physical health of the people and committing to it their moral health. * * * * The arguments employed by the dissenter to show that the moral sanity of the people is not a matter for state superintendence, are applicable, with a slight change of terms, to their physical sanity also."

With all respect for Mr. Spencer's great learning and ability, it must be claimed that in this piece of reasoning he has been guilty of the illogical procedure of comparing things that are totally and essentially unlike. It is not surprising, therefore, that he has fallen into error. Moral sanity refers to the mind, physical sanity to the body. The body can be controlled, the mind cannot be. The state can do much for the physical health of the people—by force, if necessary; but is manifestly powerless to control the mental states of her citizens. To illustrate: The state is competent to repress the physical act of swearing in public places, but incompetent and powerless to prevent men from walking the most crowded thoroughfares of a city with their minds and hearts full of the foulest oaths.

Further, the state may prevent murder, but not malice; she may prevent the physical act of killing, but not the malicious desire to kill.

There is, therefore, no analogy betwixt legislating for the physical health, and legislating for the moral health of the people. Both are desirable, but the one is possible, the other impossible; the one attainable, the other unattainable; the one practicable, the other impracticable.

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Because it is impossible for the state to legislate sin, and malice, and revenge, and selfishness, and all wickedness out of men's minds and hearts, is that a valid reason why it should refuse to legislate fevers, and small-pox, and consumption, and rheumatism out of their bodies, as far as in its power lies?

Were it possible for a government to accomplish as much, or one tithe as much, for the moral health of the people as it may do for their physical health, then both right and duty would dictate that it should put forth its hand and do it. Indeed, one of the surest avenues through which a government may improve the minds and reform the morals of the people, is by healing and strengthening their bodies; for minds that are weakly and depraved, and bodies that are puny and diseased, are reciprocal and correlative.

Mr. Spencer further says:

"Moreover, this doctrine that it is the duty of the state to protect the health of its subjects cannot be established, for the same reason that its kindred doctrines cannot, namely, the impossibility of saying how far the alleged duty shall be carried out. * * * * * Shall this duty be consistently discharged? If so, the legislature must enact a national dietary; prescribe so many meals a day for each individual, fix the quantities and qualities of food, both for menand women; state the proportions of fluids, when to be taken and of what kinds; specify the amount of exercise and define the character; describe the clothing to be employed * * * * and so on, with all other particulars necessary to complete a perfect synopsis for the daily guidance of the nation. If, on the other hand, a universal supervision of private conduct is not meant, then there comes the question—Where, between this and no supervision at all, lies the boundary up to which supervision is a duty? To which question no answer can be given."

This is a form of argument of which Mr. Spencer is very fond, and to which he resorts on frequent occasions, an apparent "*reductio ad absurdum.*"

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He insists that as no absolute line of demarcation can be drawn betwixt what the state should do for the health of its citizens and what it should not do, therefore it should do nothing.

By parity of reasoning we would be forced to the conclusion that the state should either give a man unlimited control over the members of his own family, even to the extent of putting them to death, or should withhold all control from him; because no absolute line of demarcation can be drawn between the authority which should be conferred and that which should be withheld! Everybody knows that it is possible to draw a reasonable line of demarcation between parental and state authority in domestic matters, and one which shall represent a healthy and just division of power between the head of a family and the state.

It would seem to be no more difficult to draw such a line in matters of sanitary control,—between what the state should do for the health of its subjects and what it should leave them to do for themselves.

Mr. Spencer endeavors to further support his argument by saying:

"A sad population of imbeciles would our schemers fill the world with, could their plans last. A sorry kind of human constitution would they make for us,—a constitution lacking the power to uphold itself, and requiring to be kept alive by superintendence from without,—a constitution continually going wrong, and needing to be set right again,—a constitution ever tending to self-destruction.

"Why, the whole effort of nature is to get rid of such, to clear the world of them and make room for better. * * People with any constitutional flaw, preventing the due fulfillment of the conditions of life, are continually dying out, and leaving behind those fit for the climate, food and habits to which they are born. And thus the race is kept free from vitiation."

Many objections might be urged against this doctrine of Mr. Spencer, namely, that it is wrong for the state to inter-

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fere by judicious sanitary measures with the order of nature, which ordains that the weak must die to give place to the strong, but the cold-blooded character of the doctrine is enough to condemn it forever. Unfortunately for the argument the strong and able-bodied sometimes fall victims to disease and death in apparently greater numbers than do the weak.

The adoption of such a policy as that indicated by Mr. Spencer would banish from among men the whole science of medicine, with all its beautiful revelations of truth, and all its soothing balms for the relief of human suffering, and would consign man to the unmitigated effects of that primal sin that

> "Brought death into the world, and all our woe."

It would likewise suppress all those humanistic orders, the sweet incense of whose benefactions ascends to Heaven and "pleads with the interceding angel to drop a tear upon the record of human sin and blot it out forever." If

> Man's inhumanity to man
> Makes countless thousands mourn,

it would be a cruel doctrine indeed that denied to man's *humanity* to man the sweet privilege of relieving human suffering and assuaging human grief.

I cannot leave Mr. Spencer's argument without repelling with indignation and scorn the slander he utters against the medical profession, when he ascribes to it mercenary motives for the efforts it has made, and is making, in behalf of public and private sanitation. The traditions of the profession for two thousand years refute the allegation; the daily and nightly service of its members, rendered to pauper with like faithfulness as to prince, refutes the allegation; the lives of thousands of earth's noblest and best that have been dedicated to the science of medicine and faithfully spent in its service, the examples of which have come down to us as a precious and proud heritage, overwhelmingly and utterly refute the allegation.

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Were the principle of state supervision of the health of the people not founded upon the most absolute right and justice, an argument might be advanced for it, and not an unworthy one, based upon the necessities of the case and the good to be accomplished thereby.

The progress of civilization is not an unmixed blessing. Population advances along with civilization, and often breeds the seeds of diseases that, like dragon's teeth, spring up into full-armed and panoplied enemies to man's life and health. Once generated, these germs find in modern lines of transportation every facility for wide and rapid dissemination. They may embark upon "ships that sail against the wind," and, making a rapid transit across the broad bosom of the ocean, may land upon a foreign shore, and, never halting, may mount a palace car and travel with the swiftness of the wind through populous cities, smiling villages and happy valleys, spreading desolation and death along their pathway. Such are the facilities and speed of travel now, that a germ of disease born at Bombay or Damietta may be landed on the shores of this western world, and whirled across the continent to the golden gates of the Pacific, before a single moon, showing a narrow crescent of light above the horizon, and growing into a silvery disc, has made the circuit of the sky and faded out again.

The necessity, therefore, of adopting measures to prevent the origin and limit the spread of diseases is greater than ever before, and will continue to grow greater as population becomes denser, luxuries more common, and inter-communication more perfect and rapid.

What other power can be invoked to do this work than that of the state, and to what class of citizens can it be so naturally or wisely committed as to the medical profession?

Without following this line of argument further, and trusting that you all will accede to the proposition, that there are official relations of the most important and far-reaching character which should be established between the state and the medical profession, we will proceed to inquire, as briefly as possible, what are some of those relations?

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The words "state" and "government," as they occur in this discussion, are used synonymously with the "powers that be," and it is not proposed to enter into any argument as to the proper division of authority in sanitary matters between the states and the national government in our federal system.

Every government should thoroughly understand the causes, natures and modes of propagation of the diseases from which its people suffer and die, if for no higher reason than that material one, embodied in the truism that "health is wealth." To obtain this knowledge is the aim, it is true, of every member of the medical profession, but active practitioners, who are busy with their daily rounds of service to the afflicted, find themselves, as a rule, unable, for lack of time, to engage in those minute and intricate investigations into the pathology of diseases which are calculated to throw new light upon their causes and natures. This same class of practitioners, and for the same reason, are frequently unable to enter upon those detailed inquiries into the ways and means by which diseases are conveyed from one person or place to another, which are so necessary in order to arrive at broad and correct generalizations as to the modes of propagation of diseases.

When an alarm of fire rings out on the midnight air, the wakeful and watchful fireman must rush to the scene of conflagration and fight the devouring element with all his might and strength, without stopping for a moment to inquire into its origin, into the ownership of the property, or the existence or not of a policy of insurance. These questions must be left to others, or to calmer times.

So, when an epidemic makes its appearance, the local and active practitioners must employ all their strength and skill in endeavoring to hold the citadel of life against the foes that surround and assail it, leaving to others much of the duty of inquiring as to the route by which the enemy approached and the manner in which he captured the outposts.

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This work, embracing the most searching inquiry into all the circumstances attending epidemics, and the most exhaustive study of the nature and pathology of disease in all its forms, and which we have said the local physicians are so frequently unable to do, for lack of time and facilities, should be supplemented by a corps of scientific medical men, appointed by the state, and especially trained and qualified for such service. Such a corps should be supplied with well-equipped laboratories for studying and further developing the sciences of anatomy, physiology, biology, pathology and botany, and, with headquarters established at a suitable locality, it should be ready to send out detachments of observers and workers to any point that is either threatened with or invaded by an epidemic or an unusual form of disease. Its investigations should also extend to the conditions of life, habits, structure, growth, reproduction and decay of all classes of animals and plants, from the lowest to the highest, for a knowledge of these will lead to new and important discoveries in regard to the natures of diseases, their modes of propagation and cure.

Indeed, it has long seemed to the speaker that a government should have a department of health, as well as one of state or of interior. Medical men working in private capacities have done much and are doing much to develop, systematize and teach the principles of sanitary science, but it stands to reason that an organization of the kind indicated might accomplish much more. Our Federal Government has shown a commendable spirit of liberality by assisting in other measures of scientific, commercial or national importance. It has sent ships and astronomers to distant points to observe an eclipse of the sun or a transit of Venus; has fitted out at much expense expeditions to search for an open polar sea, and has made large appropriations to be represented in international and industrial exhibitions.

Is human life so cheap and valueless that the Government need put forth no efforts to preserve and prolong it? Suppose one or more trained and educated physicians were

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present wherever an epidemic, an unusual or a fatal form of disease should make its appearance, supplied with chemical and philosophical apparatus, with microscopes, spectroscopes, and every form of instrument that could render assistance in analyzing earth, air, water, food, the blood, secretions and excretions from the bodies of the sick; and that these investigations upon the living should be followed by careful autopsies upon those who died; and suppose these investigations should be repeated from year to year, or as opportunity offered, and that the information thus obtained should be collected, compared and recorded, do you not believe that much new light would be thrown on the origin, nature, mode of propagation and cure of diseases?

The argument in behalf of the wisdom of the government establishing a permanent medical corps for doing the work which has been hastily sketched, might be supported by referring to some of the recent epidemics that have devastated our country.

In 1873 an epidemic of cholera made its appearance in the neighborhood of Murfreesboro, Tenn., extended eastwardly as far as Greenville, and westwardly as far as Memphis in that state, and, turning downward into Alabama, came as far south as Birmingham, devastating some cities and towns in its path with fearful fatality.

Shall I endeavor to further strengthen the argument by drawing a picture of that terrible epidemic of yellow fever, which in 1878 held high carnival throughout the land, which cut down its victims in populous streets, pursued them along rivers and railways, hunted them out in hamlets and remote places, followed them upon high plateaus and into hitherto salubrious localities—never ceasing its fearful pursuit until death had laid his icy fingers upon twenty thousand victims?

Had a corps of educated physicians, trained for the work, existed previously to the origin of these epidemics, ready to rush to the scenes of ravage and distress and prepared to make every possible medical investigation, do you not be-

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lieve that much valuable information would have been obtained—information capable of being applied to similar invasions thereafter with the result of affording great protection to human life?

Not only might the *health* of the state's citizens be protected by the proper organization of a sanitary department, but her *material* interests might be immensely advanced thereby.

One illustration will do more to sustain the assertion just made than all else that might be said.

Some years ago a disease attacked the silk-worm in the silk-producing districts of France, and so impaired its spinning capacity as to threaten that great industry with utter destruction. Pasteur, one of the purest followers in the paths of science that this age or any other has ever produced, undertook the study of this disease, and ascertained that it was due to certain microscopic germs or parasites penetrating into the bodies of the worms and consuming the soft, viscid material out of which the silk was to be spun. Whilst the worms, faithful to the instinct with which nature had endowed them, continued to execute the motion of spinning, yet their toil was often fruitless, because the material out of which the thread was to be drawn had all been stolen and consumed by the thievish parasites.

Pasteur continued to study the life-history of this parasite, from year to year, until he learned the precise phase of its development at which it could be most effectually destroyed, and thus rescued from ruin the silk industry of France. Who can estimate the material or moneyed value of a scientific study, such as that pursued by Pasteur, crowned as it was by such brilliant success?

Many other instances might be mentioned wherein medical investigations have pointed the way either to the creation or the protection of wealth, but the one just spoken of is deemed sufficient.

The wisdom of a government organizing a permanent medical corps for studying disease in all its forms, both of

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men and animals, must be apparent, and if conceded without further argument, will allow us to pass to the discussion of another one of the relations which should exist between the state and the medical profession.

Allusion is had to the collection of vital statistics, or securing accurate reports of the number, causes, and localities of deaths, and, also, the number of births, occurring among a people.

A well-informed and logical writer says: "No test of the state of society can be named so decisive as that which is furnished by bills of mortality."

A government that carefully collects such bills proclaims in unmistakable language that it is keenly alive to every influence that can injuriously affect its own welfare and progress.

To ascertain the causes of diseases, the localities and seasons in which they prevail, the conditions of heat or cold, of moisture or dryness, winds or calms, exposure or confinement, that modify or influence them, is a first, a necessary, and a long stride toward their most effectual prevention and cure.

With such data in possession generalizations may be made, from which principles can be deduced and laws formulated, the observance of which will secure the largest possible share of health and happiness, and the violation of which will entail a corresponding amount of sickness and misery.

We may, therefore, fully concur with the writer just quoted, and hold that whenever a government obtains full vital statistics of its people, and applies such knowledge to their protection from disease, as may be done, it is justly entitled to occupy an advanced position in the scale of civilization.

Two years ago Alabama became aroused to the importance of this work, and enacted a law intended to secure its accomplishment.

A more correct idea of the scope of that law may be im-

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parted by reading from one of the annual reports, made in accordance with its provisions, than in any other way.

The Health Officer of the State, to whom these reports must be submitted, has kindly furnished me one from the County of Calhoun, from which I proceed to read. * * * Not to weary you with statistics, for time and occasion forbid anything like a close analysis of this report, suffice it to say that in it we find recorded and tabulated the number of deaths that occurred during last year in each precinct, and in three of the most important towns of the county; also, the ages, sexes, colors and diseases of the persons so dying, together with the months in which the deaths took place. If this work is faithfully carried on, year after year, do you not see what a mass of valuable and definite information will be gathered together, from which the industrious searcher after truth may draw correct deductions as to many of the causes of diseases, and the conditions under which they attain the greatest prevalence and mortality? This done, measures of prevention and cure, as yet unknown, may be successfully devised, and intelligently and effectively applied.

The execution of this law has been placed chiefly in the hands of the medical profession of the state, and one of the vital and pressing issues of the hour is: Will it be enforced? If an opinion on this point can be based upon the wisdom and fidelity which the medical profession of Alabama has hitherto shown in founding and upholding measures of medical reform and progress, the emphatic answer will be: IT SHALL. In truth, herein is furnished an opportunity for rendering the state a service which no enlightened medical man will either neglect or forfeit; for, aside from what may be accomplished in behalf of humanity thereby, Alabama possesses a two-fold interest in the rigid enforcement of this law. She needs the information its enforcement will furnish not only as a basis upon which to devise measures of protection for her own people, but as a vindication of the reputation of her climate for salubrity

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and health, thus offering the strongest possible inducement to other peoples to come with their labor and capital into her borders and help to develop the rich and varied resources of mineral and metallic wealth that lie buried in her bosom, awaiting but the touch of enterprise to leap forth from their silent and solid tombs.

When the diseases incident to a country have been exhaustively studied, and when accurate statistics as to their prevalence have been collected, the time has arrived for reaping the fruits that have ripened under such labor and cultivation—in other words, for the *application* of the principles of sanitary science. As the knowledge of these principles belongs preëminently to the members of the medical profession, it is to them that the state should commit their application.

This suggests another *relation* which should exist between the state and the medical profession, namely, that of *supervising* and *directing* the enforcement of the teachings of sanitary science. The field for the application of these principles is as broad as the country itself, and includes the supervision of the hygienic condition of every city, village and hamlet, every school-house, academy and college, every prison, penitentiary and jail, every line of public travel, hotel, theatre and depot, yea, every home in the land.

Did time permit, numerous instances might be cited in which the violation or neglect of these principles has been visited by the severest punishment.

When the penalty comes suddenly and openly the attention of the laity may be arrested thereby, and steps taken to abate the evil; but not infrequently the penalty comes so insidiously and is so disguised that the skill of a trained and practiced sanitarian is needed to detect it. For instance, it has been ascertained that certain eye diseases among school children and students bear a direct ratio to the bad illumination of school rooms. So soon as this fact was learned and announced by medical men, the remedy obviously consisted in securing proper illumination.

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In the practical application of sanitary principles, I may again claim credit for Alabama, she having taken some important steps in this direction, to be spoken of presently. I may go further and claim that she was induced to take these steps through the influence of the Medical Association of the State. Two years ago, Dr. J. B. Gaston, of Montgomery, then President of this body, discussed in his annual message, among other topics, that of the sanitary condition of the penitentiary and convict camps within the state. The discussion was able, logical and thorough, and showed that the state, in punishing its criminals, was committing crime by violating hygienic conditions, and thus subjecting its prisoners to the hazards of such violation. That paper arrested wide public attention, and doubtless did more than any other one agency in leading to the passage of a law entitled: "An act to regulate the hiring and treatment of state and county convicts." The provisions of this law are minute and comprehensive, and if carried out will save the state from the charge of itself becoming a criminal in dealing with its criminals. One of the provisions of this law requires the appointment of a physician and three inspectors, whose duties shall be to personally look after and vigilantly guard the sanitary interests of the convicts.

Without having informed myself as to the fact, I venture to assert that since these inspectors entered upon the discharge of their duties the rate of mortality among the state's criminals has been markedly diminished, and I doubt not that from the hearts of the convicts working out the penalties of their crimes—sometimes deep down in the bowels of the earth—true and genuine gratitude has gone forth for burdens lifted and comforts granted.

This is but one of the instances in which Alabama has practically applied the teachings of sanitary science, but it alone is sufficient to justify the claim made that she is taking important steps forward in the enforcement of sanitary regulations.

We now approach the discussion of a *relation* of the most

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vital and important character which should always exist betwixt the state and the medical profession, namely, the establishment and management of quarantine and the suppression of epidemics. Without stopping to analyze the theory of quarantine, further than to say that it is founded upon those ultimate and final principles of human rights—the principles of self-preservation and the greatest good to the greatest number—which under great emergencies assert themselves and must be accepted, we will proceed to discuss some of the more practical aspects of the question.

When a country is either threatened with or invaded by a military foe, to whom do the people look for guidance and protection but to men trained in the arts of war—men able to interpret, to meet and to repel the movements of the *enemy*? So, when a state or city is either threatened with or invaded by an epidemic, to whom should the people naturally look for counsel and help but to men trained in the arts of healing? Herein, then, lies a sufficient reason for the organization of boards of health, did no other exist.

Of whom should such boards consist? Would it be wise to place an officer in command of one of the steamers that ply the splendid river flowing by your city who knows nothing either of the channel of the stream or of the practical management of such a craft, loaded as it might be with the precious freight of human lives? Disaster, probably of the most fearful kind, would be the quick penalty of such rashness and folly.

Apply the parallel to the management of an epidemic of disease that either threatened or had invaded your city, and do you not see the bad wisdom of committing your safety and protection, under such circumstances, to boards of health whose members know almost nothing of the enemy they must fight, or of the weapons they should employ? Disaster in this case might be just as swift and far more terrible than in the other.

No lengthy argument can be needed to convince you that

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boards of health should consist of medical men, and I shall not consume more time in offering one.

By whom should such boards be appointed or elected?

If their work is of a special and responsible kind, would it not be wise to refer their appointment or election to those most capable of judging of the qualifications and fitness of persons to serve thereon, seeing that such a course would remove the organization of boards of health as far as possible from political management or commercial influence—objects much to be desired? Who cares whether his health be guarded by a high tariff, low tariff, or free-trade democrat, so the protection be ample and complete?

It is equally desirable that the appointment of boards of health should be removed from all commercial influence, because commerce and quarantine not infrequently come into direct and fierce conflict. How shall all these ends be so well attained as by referring the election of boards of health, composed of medical men, to medical men? This is precisely what Alabama, in her wisdom, has ordained and put into practical operation. He who runs may read the benefits which have already been reaped by this system.

Formerly, boards of health, if they existed at all, were loose and weak organizations, composed of laymen or partly of laymen and partly of medical men, held meetings but seldomly, and often waked up from their lethargy and inattention to health matters to find that an epidemic had already entered the unguarded gates of the city and commenced its ravages within. In those times the reports and proclamations of boards in regard to the presence or not of epidemic disease in the cities over the health of which they professed to preside, received little credence throughout the country, and they were not entitled to more; because too often the motive to ignore or distort the facts was too strong to be resisted and too apparent to be concealed. Now, how changed! As organized in Alabama, boards of health are composed of medical men elected by medical men, are watchful, vigilant, and vigorous organizations, ready to act

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in emergencies intelligently and promptly, and without fear or favor. Working under this kind of thorough organization they are rapidly overcoming that distrust in each other which formerly existed, and the time will soon come when the reports that go forth from any one board, as to the presence or not of epidemic or contagious diseases in its midst, will be received by all other boards with that full credit which is accorded to the records of a court of justice by every other court in the land. When that time comes we may sleep in security, feeling that our lives are being protected by men who know how to guard them, and, knowing, dare do it.

One of the important points in the practical management of quarantine is to decide when the proper time has arrived for establishing it—neither to give way to panic and commit the farce of fighting a wind-mill, nor to delay until the enemy has already entered and sowed the seeds of disease and death. To select this opportune moment must depend upon the judgments of medical men, upon their diagnostic ability in promptly recognizing diseases of an epidemic or contagious character. This is not always easy, for occasionally the most characteristic symptoms of a disease may remain for a time largely or entirely hidden from the view of the keenest medical observer, but at a later stage of the attack, or in subsequent cases, may so fully reveal themselves as to fix the nature of the affection beyond all possibility of doubt.

Just here I desire very courteously, but very positively, to enter a complaint against that spirit of intolerance and condemnation exhibited by the public toward physicians whenever they manifest doubts or disagreements as to the nature of a case of undeveloped or complicated disease—a spirit that grows louder and yet louder still when doctors are so unfortunate as to be guilty of the unpardonable sin of committing an error! Do not understand me as apologizing for or excusing incompetence on the part of medical men. Far from it. I would demand of them full measure, heaped up

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and running over, of professional ability, but I do complain of that impatience—amounting to distrust—manifested by the public to have a first case of disease definitely and promptly named when the oldest, the ablest and the purest doctor in the land might well entertain doubts as to its nature. Still more earnestly do I protest against the readiness with which people impugn the motives of doctors under these trying circumstances—not hesitating to attribute to them motives that all honest physicians would spurn beneath their feet, as alike unworthy of themselves and of the high vocation they follow. Not satisfied with doing an injustice so gross as this, people sometimes go so far even as to take issue with physicians of high standing in regard to the diagnosis of a case of disease they have never seen, and were they to see it might be as ignorant of its nature as a New Zealander would be of the beauty and grandeur which the master-hand of a Titian, a Rubens, or a Raphael ever spread upon canvas. Is it not a common occurrence for persons to be deceived in every day life in regard to articles they can touch and taste and handle? You may walk the street upon a pavement that looks for all the world like stone, feels like stone, and yet is not stone. You may step from such a pavement which has deceived you into a shop and be shown a piece of jewelry that shines like gold, with a setting in it that glitters like diamond, yet both may be imitations—imitations well calculated, it is true, to deceive any one except the most expert. Manufacturers are continually cautioning the public to beware of counterfeits, thus admitting that their wares may be so closely imitated as to successfully deceive the people. Since imitations and similarities of the most striking kind exist among diseases, is it strange that doctors sometimes hesitate before pronouncing a definite opinion, or that, with their best efforts they may sometimes reach a wrong conclusion? You all remember the anxious suspense with which a decision was awaited last summer as to the nature of an epidemic which made its appearance in the village of Brewton, in our own state.

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Among those who went there to observe, to study, and to treat the disease was our State Health Officer. On arrival, he was shown a dying patient. The history of the case and the symptoms presenting were not such as to justify the formation of a definite opinion as to the nature of the disease. Under these circumstances he had the courage to confront that public opinion which regards it a crime for a doctor not to be able to pronounce at a glance, upon any and every form of disease, by sending forth a dispatch stating that he had not arrived at a definite conclusion as to the nature of the affection, but that if other cases should occur he would endeavor to solve his doubts.

I honored him for that dispatch. I honor any man who, when surrounded by circumstances of great gravity and doubt, has the boldness to say: I do not know; for such confession is the first and surest step that can be taken toward knowing.

Other cases did occur, and another dispatch went forth, saying: I do know,—it is yellow fever. I need not remind you of how fully this opinion was confirmed by the sad sequel. Had he been wrong, is it not human to err? Do not higher courts often reverse the decisions of lower ones? The peerless Lee, with candor equal to his greatness, said: "It is my fault." May I not then bespeak the charity of the public toward physicians when called upon to decide as to the character of a disease in which the symptoms are obscure or conflicting; and may I not, also, ask that forgiveness for their errors which is said to be divine? When the nature of a first case of disease has been decided to be gravely infectious or contagious, or such as to demand the establishment of quarantine, the price of protection is wise action and eternal vigilance on the part of boards of health.

Under these circumstances experience in the management of details is of the highest value, and confers the same advantages upon those who acquire it that veteran soldiers possess over raw recruits.

When boards of health are composed of medical men,

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chosen by medical men, their membership is likely to continue virtually the same through a series of years,—thus affording the members opportunities of acquiring that experience in dealing with epidemics and directing measures of quarantine that confers upon the people such a guarantee of safety and protection.

It may, therefore, be considered an era in the sanitary history of Alabama when it was by law declared that boards of health should no longer be composed of men unfitted for the work they were expected to perform, but of medical men whose studies lie in the very direction best calculated to fit them for such work, and whose highest aims and honors consist in protecting the health and saving the lives of the people.

Time permits of the discussion of but one other of the *relations* that brings the state and the medical profession together, namely, the subject of expert testimony in *medico-legal* investigations.

When crime has been committed both the state and every member of society should be interested in hunting out the criminal and bringing him to justice and punishment. If science can be put upon the stand and made to testify, a witness has been secured whose evidence is beyond the influence of fear or favor, of affection or enmity, of passion or prejudice; for science is a twin sister to truth herself, and her revelations are but the echoes of nature's voice, speaking out in divine and immutable laws. Human witnesses may forget or fall into error, science, when her methods are respected, never; human witnesses may be corrupted into suppressing the truth or speaking falsely, science is deaf to all appeals, and, when rightly interpreted, always speaks "the truth, the whole truth and nothing but the truth."

A mangled corpse is found on a railroad track, and the state desires to know whether or not a foul murder has been committed, and an attempt made to conceal the crime by placing the body where a passing train has crushed it. Let a competent medical man be put on the witness stand, and,

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guided by the unerring teachings of his science, he will point out the wounds inflicted before death by the hands of an assassin, and those inflicted after death by the wheels of the train. Let a dead body, bloated and black, be taken from a stream and the same medical man may be able to distinguish the work of the murderer from that of the water.

Many other conditions might be mentioned in which scientific testimony would furnish the clue by which "murder does out," of one of which I will trespass upon your time sufficiently to speak.

A murder has been committed, suspicion falls upon an individual and a stain of doubtful character is found on his clothing or on a weapon in his possession. The identification of such a stain as having been produced or not by blood might form an important link in the chain of evidence tending to establish the guilt or innocence of the accused. Let such a stain be submitted to a microscopist, and, applying tests as exact as mathematics, which his science has taught him, he will give you an unequivocal opinion. Bear with me whilst I undertake to point out the evidence which would guide him in reaching his conclusion.

Microscopically examined, blood is seen to be composed of very minute corpuscles floating in a clear and colorless fluid, the liquor sanguinis. These corpuscles are of two kinds, red and white ones.—the former containing, as their name indicates, the coloring material of the blood, and being in man from three to five hundred times more numerous than the latter, which, as their name indicates, are devoid of color. It is the *red* corpuscles that constitute the characteristic portions of blood, that is, those portions upon which reliance is placed in identifying it. In man these corpuscles are small *bi-concave* discs of about the 1-3000 of an inch in diameter,—their microscopic appearances (except as to color) being well illustrated by the accompanying engraving (Fig. 1).

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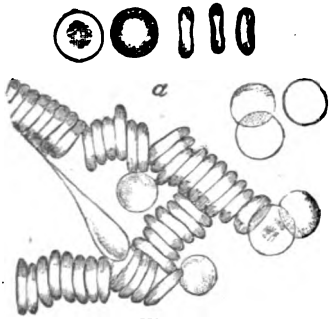

(Fig. 1.)

In the upper portion of the field five corpuscles are represented, two of which are lying flatwise and three standing edgewise; on the right are three others seen on the flat surface, and below they are mostly represented edgewise and collected together in rouleaux,—an arrangement they have a strong disposition to assume so long as they retain their vitality. One corpuscle shows an elongation in one direction,—a shape they rarely assume,—but may return to its original form. It is upon the *shape, size and color* of the red corpuscles that a microscopist depends in identifying blood, when examined sufficiently early, or before these characteristics have been destroyed by dessication or putrefaction. When examined after these have been lost he would depend upon the *contents* of the corpuscles, to be spoken of later.

No other cells or microscopic objects are known that are identical in shape, size and color with the red corpuscles of blood—hence, when found, they mean blood, and blood only. It matters not how few in number they may be, or what attempt may be made to disguise them by admixture with other fluids, so long as they retain the characteristic appearances mentioned above a thorough microscopist would be able to identify them, and not only so, but willing to qualify as to their nature. He could go further, and, owing to certain differences that exist, could in many cases distinguish human from animal blood. The annexed engraving (Fig. 2) illustrates very clearly the differences that exist in the blood corpuscles of four different species of animals, namely, mammifera, birds, reptiles, and fishes; and also the differences between the corpuscles of the several classes of amimals belonging to each species.

NOTE.—The author is indebted to Carpenter's Physiology for the engravings accompanying the text.

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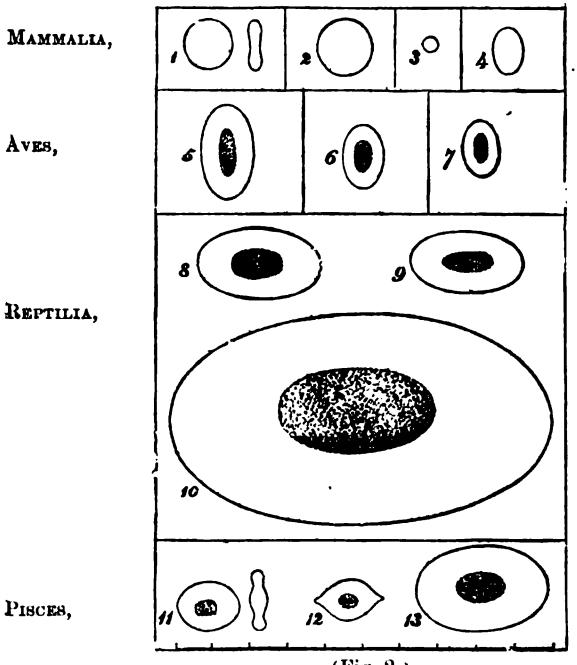

(Fig. 2.)

MAMMALIA.

1. Red corpuscle of Man, seen on the flat surface, and also on the edge.
2. Red corpuscle of Elephant.
3. Red corpuscle of Musk Deer.
4. Red corpuscle of Dromedary.

AVES.

5. Red corpuscle of Ostrich, with nucleus.
6. Red corpuscle of Pigeon, with nucleus.
7. Red corpuscle of Humming Bird, with nucleus.

REPTILIA.

8. Red corpuscle of Crocodile, with nucleus.
9. Red corpuscle of Python, with nucleus.
10. Red corpuscle of Proteus, with nucleus.

PISCES.

11. Red corpuscle of Perch, with nucleus.
12. Red corpuscle of Pike, with nucleus.
13. Red corpuscle of Shark, with nucleus.

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A glance at the engraving (with the explanations underneath it) will show the wide differences that exist between the blood corpuscles of different species of animals, and, also, the more or less considerable differences that exist between those of different animals belonging to the same species. For instance, it will be observed that the corpuscles of the mammalian species are destitute of nuclei, whilst those of all the other species possess nuclei. Again, among the four classes of animals represented as belonging to the mammalian species important differences of size of the corpuscles, and in one case of shape, will be noticed, and so throughout the other species. Guided by these laws of difference, ordained and rigidly adhered to by nature, it will be seen that a microscopist could in all the instances included in the illustration readily distinguish between human and animal blood. This he could also do in the large majority of instances, but it must be admitted that the blood cells of some animals belonging to the mammalian species do so closely resemble those of man as scarcely to admit of an absolute distinction being made.

This admission does not invalidate, except to a comparatively slight degree, the worth of scientific testimony in an issue of the kind under discussion; for, in the large majority of cases it would be sufficient to identify a stain as having been produced or not by blood, and in the small minority of instances in which it would be impossible to differentiate between human and animal blood, such a distinction might be of subordinate importance.

What has been hitherto said has applied to the identification of blood in the fresh state, or before the corpuscles have lost those characteristic appearances upon which we have dwelt.

It may sometimes become necessary to identify an old stain, one that has long existed or been much exposed to atmospheric influences, and fortunately for justice, and largely to the credit of science the opportunity of doing so is by no means forfeited on account of the age or exposure of the stain.

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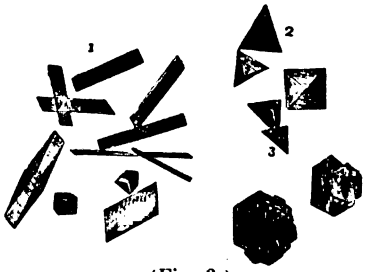
It has been said that hæmatin or the coloring principle of the blood resides in the red corpuscles, and whilst the corpuscles themselves, as such, may collapse and disappear, this material is reasonably permanent and indestructible. In old blood stains, therefore, it is upon the hæmatin that dependence is placed for identification. Under certain chemical processes, to which suspected stains, whether fresh or old, may be subjected, hæmatin, if present, is capable of assuming definite and characteristic crystalline forms; hence, if upon the application of proper reagents, such crystals are obtained, it may be considered as established beyond all doubt that the stain in question was produced by blood. The form of crystallization is not the same for all blood, in which fact is presented another opportunity for distinguishing human from animal blood.

I show you a drawing (Fig. 3) which represents the forms these crystals assume in man, in the Guinea-pig, and the squirrel.

You will notice marked differences—they being in man (1) prismatic and rhomboidal, in the Guinea-pig (2) tetrahedral, and in the squirrel (3) hexagonal.



(Fig. 3.)

These are not matters of chance, but fixed and absolute laws of nature that may be depended upon with the utmost confidence. Whenever, therefore, blood crystals are found they speak in no uncertain language from whence they came, and, not only so, they often point with the unerring finger of truth to man or animal.

Suppose a murder has been committed, and a suspected person should endeavor to explain a suspicious stain on his clothing by asserting that he had been out gunning and had shot some squirrels, from the blood of which the stain had been produced. If, upon proper examination, crystals

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should be found that are characteristic of human blood and not of squirrel blood, he would be betrayed at once. If, on the other hand, he were unjustly accused, his innocence might be proved by obtaining from the stain crystals characteristic of squirrel blood, and not of human blood.

I have dwelt thus long on this subject, believing that before an audience largely popular, as this is, demonstration is far preferable to simple assertion, and will endeavor to emphasize what has been said by relating the facts of a very striking case in point, for which I am indebted to an article on this subject written by Dr. Andrew Fleming, of Pittsburg, Pa.

'At Norwich, England, a girl, nine years old, was found lying on the ground dead, with a large and deep gash in her throat. Suspicion fell upon the mother of the murdered girl, who, upon being arrested, behaved with the utmost coolness, and admitted having taken her child to the plantation where the body was found, whence the child was lost from her whilst in quest of flowers. Upon being searched there was found in the woman's possession a large and sharp knife, which was inspected. The officer remarked: "Here is a bit of fur or hair on the handle of your knife." The woman replied: "Yes, I dare say there is, and very likely some stains of blood; for, as I came home, I found a rabbit caught in a snare, and cut its throat." The knife was sent to London for microscopic examination. No trace of blood could at first be detected upon the weapon which appeared to have been washed; but upon separating the horn handle from its iron lining a fluid was found between the two which proved to be blood, and certainly not the blood of a rabbit, but resembling very closely that of the human body. The hair on the handle of the knife was then examined. Without knowing anything of the facts of the case the microscopist declared the hair to be that of a squirrel. Around the neck of the child, at the time of the murder, there was a tippet over which the handle of the knife, by whomsoever held, must have glided; and this tippet was

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found to be of squirrel's fur, fully explaining the source from which the squirrel's hair on the handle of the knife was derived. The woman was convicted, and whilst awaiting execution, made a full confession of her crime.'

I am sure I need not add a single word of comment upon the facts of this case to impress you with the value of scientific medical testimony to the state in upholding law and justice and bringing crime to light.

To be true to our subject, there remains a word to be spoken of that relation which the medical profession bears to the people, in a private capacity. And need I speak a word here? If the feelings which every throb of your hearts would express could be coined into an answer I doubt not that that answer would be: No, the relation betwixt my physician and myself is too sacred and confiding to be invaded in public discussion.

The highest respect I could pay to the sacredness of such a relation would be to pass it by in silence, but not forgetting the opportunities it offers, both to people and profession, for cultivating and displaying many of the noblest and purest attributes of human character. For the one it unfolds a life inspired by the loftiest aims,—a life that may be illuminated and hallowed at every step along its pathway by deeds of service and charity that rise like sweet incense from the alter of human works, and plead for acceptance by the Great Throne where final judgment is to be rendered for the deeds done in the body; to the other it gives occasion, when the "pale messenger" has been driven away from the couch of one who is nearest and dearest, for the exercise of those feelings of trust and confidence which are the highest rewards that human gratitude can ever pay to human skill.

We have reviewed some of the relations which medical men sustain, or should sustain, to the state and the people, namely, those of investigator of disease, collector of vital statistics, advisor in the application of the principles of sanitary science, counsellor in measures of quarantine, and for the suppression of epidemics, witness in be-

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half of truth, as revealed by science, in forensic investigations, and lastly as sentinel over the health and lives of the people.

Do you not see that a profession sustaining so many and so important relations to the state and the people, should be composed of men of pure hearts, wise heads and ready hands? All of these they should have in the fullest abundance, for disease—man's great enemy—may come in countless forms. It may descend upon him with the thunderbolt from above and strike a blow fatal ere he can raise an arm in defense; or, with silent tread, it may steal into the inmost chambers of his fleshy tenement, and there making its home, consume the very fountains of his life; it may betray him with an embrace, gentle at first, but slowly and surely tightening in the grasp of death; or, without disguise and wearing horrid mein, it may exult in terrifying the victim marked as its own; it may infuse a subtile poison into the air he breathes, the food he eats or the water he drinks; it may lurk in the thick jungles or be exhaled from the fertile valleys of the tropics, or lie crouched in the frozen fastnesses of the arctics, ready, wherever it be, like a lion in his lair, to leap upon his prey with a ferocity to be appeased with the life's blood only; it may spring into being from the beloved soil of his own home, or, like a ruthless invader, it may come from a foreign shore; it may choose its victims from the dearest, the noblest, and the best, or, with blind voracity, it may strike the young and the old, the rich and the poor, the noble and the ignoble with impartial and fearful fatality. However this enemy come, duty calls, and calls loudly, upon medical men to arm and equip themselves with every weapon that science can furnish, and to offer him battle and life, if need be, to protect and save their suffering fellow-men.

In this fierce warfare with disease can medical men call in the aid of an ally?

Ah! in that fair creature upon whom nature has lavished gifts and graces to fit her for that sphere in the sickroom, she so delights to fill, he can find one who is both true and brave.

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A gentleness that always wins, a smile that always refreshes, a voice that always cheers, a hand that ever soothes and softens, a heart that melts down into sympathy with every scene of suffering or woe, a fortitude that never yields to despair, a courage that never falters in real danger, and a christian charity both meek and bountiful, are the gifts that make her 'welcome as a ministering angel when pain and anguish wring the brow,' and, wielding them so deftly and tenderly as she does, they will often both comfort the body and reach and solace the mind in a way that our remedies can never do.

The lovely and imperial queen of the drawing-room, the tender and faithful servitor of the sick-room,

> "Still woman draws new pow'r, new empire, still
> From every blessing and from every ill."

This Association, endeavoring to work out the great mission of medicine, and which meets a second time, within very recent years, in your hospitable city, represents the combined and concerted efforts of the profession in this state. Those efforts have already been crowned with brilliant results,—results that give promise of yet richer rewards in the future.

And what may the two mighty forces of aim and enthusiasm not accomplish? Archimedes said: Give me a place whereon to stand and I will move the world. However vain this proud boast to rock the world as a cradle it yet revealed the sublime faith that dwelt in the man,—faith in the eternal truth and power of that science he had served so well.

The value of enthusiasm in working out great aims is sometimes under estimated; indeed, it is sometimes made the subject of ridicule, and set down as the equivalent of vapor and emptiness. Instead of accepting such definition I would rather call it dormant power converted into active and effective force. A block of ice is solid and motionless, but convert its latent power into steam—enthusiasm if you please—and you have waked a slumber-

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ing force able to rend the earth itself. An eagle may perch upon the tallest tree of the forest and be proud of his heighth, but stir him from there and he may bathe his wings in the clouds, or, mounting still higher, he may almost dash against the blue vault itself. The foam of the sea is light and frothy, yet it has the sea in its might and its depth underneath it as its parent. An arm may be ever so strong, but if it put forth a part only of its strength, much of what it might do will remain unachieved. Guided by a wise head and wielded with an enthusiastic spirit, it may cut a continent in twain, and bring ocean to ocean in proud embrace. Let the Medical Association of Alabama, then, with lofty aims before it,

> "Still achieving, still pursuing
> Learn to labor and to wait,"

and it will require no prophet's eye to catch a glimpse of the brightness and glory of its future.

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THE TREATMENT OF WOUNDS.

BY JAMES FOUNTAIN HEUSTIS, A. M., M. D.

Junior Counsellor of the Medical Association of the State of Alabama, and Professor of Surgery in the Alabama Medical College.

There is no subject of more interest to the surgeon than this, and none in which there exists such difference of opinion. Some surgeons of the highest reputation, believing that success and safety lie only in Lister's antiseptic treatment, and others that his system is a vain delusion, and that equally good results can be obtained without it. In view of this wide-spread conflict of opinion, I propose to examine the whole subject in a rational manner, without bias or prejudice. Before considering any plan of treatment, it should be borne in mind that there are constitutional as well as local conditions influencing the result, and if these are lost sight of the best laid plans may "gang aglee." But taking the conditions to be the same, we will consider the methods regarded as best, and examine their merits.

First, has the antiseptic treatment the solid foundation of proof to rest upon, as claimed by its disciples? If the experiments of Pasteur regarding putrefaction and fermentation are to be relied on, and if the troubles growing out of atmospheric exposure depend upon the germs floating in it, then its exclusion, or the destruction of these germs, or paralyzing them, with antiseptics or germicides, would appear to be the natural and rational means to be pursued. Following up this idea, Lister developed his system, which has now gained such acceptance and influence throughout the world. In evidence of the same theory as the cause of atmospheric disturbance, it is shown that subcutaneous

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wounds and injuries are not attended by the dangers and delays of healing of open wounds, and that injuries of the gravest character are recovered from, provided the skin remains unbroken and the vitality of the parts is not destroyed. Now if we can exclude the air we bring the part to the favorable condition of a subcutaneous wound. This was practiced long ago by means of the old friar's balsam, sealing with blood, &c., and often with wonderful success. But success was not assured, and it was discovered that if any putrefactive process began, the sealing was worse than useless, the discharges becoming more virulent by confinement. Hence, the use of antiseptics as preventives of these putrefactive processes, and the spray to prevent the admission of germs during the making and dressing of wounds. And it is this last part of the antiseptic system that has met with most opposition, and has been regarded as least necessary, many true believers in the system rejecting it. But Lister still holds to it as an indispensable part, on the ground that an ounce of prevention is worth a pound of cure, and that the germs, although easily kept out, are not so easily killed if they get in; others claiming that antiseptic irrigation renders them just as innocuous as the spray, provided the irrigation is strong enough (and a one to twenty carbolic acid solution in water is sufficiently strong for this purpose.)

Accepting the fact that the putrefactive process is the beginning of danger; that germs originate this; and that antiseptics render them inoperative, the next question that arose was, what was the best antiseptic? Common consent gave carbolic acid the preference, which it still holds with Lister, although departed from variously by others. And now bichloride of mercury and iodoform share the honors. After the idea of antisepticism found an abiding place in the surgical world, the manner of applying it still held and holds a debatable ground; some following Lister throughout with spray, protective gauze, macintosh cloth and antiseptic bandage; while others depend on absorbent cotton, made

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antiseptic with salicylic or boracic acid, iodine or iodoform, marine lint, &c., &c., and antiseptic irrigation instead of the spray. And there is no doubt that the complicated and minutely exact method of Lister's system, to say nothing of the difficulty of obtaining his materials of thoroughly reliable quality, has discouraged and disgusted many, and prevented others from accepting it; the tedious minuteness of the method overshadowing the great truth of the system. But Lister claims such importance and necessity for every part and detail, he cannot dispense with any. First, the spray, to keep out germs during the performance of an operation, or dressing of a wound; second, the protective, to protect the wound from the irritant action of the carbolic acid; third, the gauze, impregnated with certain proportions of carbolic acid, paraffin and resin, to diffuse and retain an antiseptic atmosphere over the wound and for some distance around; the macintosh or water-proof cloth, to equalize the discharges throughout the gauze dressing, which must be of so many thicknesses, under as well as over it, and over all the retaining antiseptic bandage, not to forget the antiseptic drainage tube, which must be inserted to the bottom of the wound *first* of all.

Now, as it is the custom of great minds to measure the perfection of any operation by its simplicity, it is no wonder that Listerism has met with opposition and ridicule, and has been rejected when the great truth of the theory has been accepted. Forasmuch as it *is* a great truth, by undeniable demonstration, it should have been recognized at its true value by *all*. And, perhaps, another reason why the antiseptic system has not been generally accepted is the fact that the use of antiseptics has been followed by surgeons *long* before Lister's day, with a full knowledge of their value; and they were not willing to accord to an individual the honor of precedence and novelty. For myself, I can say that twenty-five years ago I accomplished as excellent results with Darby's prophylactic fluid as can be accomplished by Listerism carried out in its fullest detail.

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But the honor must be given to Lister of developing the system of antisepsis as a system most conducive to the safe and rapid healing of wounds, and preventive of the great dangers of suppuration, sloughing, septicemia, pyæmia, erysipelas, hospital gangrene, surgical fever, &c., all of which diseased conditions being the outgrowth of putrefactive processes. For, although cleanliness has always been recognized as an all-important part of the treatment of wounds, the subtle action of septic influences, (against which cleanliness, pure and simple, was unavailing) was still an unknown quantity of infinite power, defeating the best efforts of the surgeon; and it is the discovery of these septic influences that places us now on higher ground. With the proneness to destruction and decay that characterizes all organic life, it is doubtful whether cleanliness can be sufficient to withstand it without the aid of antiseptics; for there is an eternal warfare carried on against molecular life by the myriads of germs floating in the atmosphere, and it is only a healthy state of a part of the system that can resist it. And how often is this delicate balance of health so disturbed that the enemy gets a foothold; and once a foothold gained, destruction follows sure.

Knowing the enemy, and knowing the best weapons to use against him, we only invite his attack by refusing to use them; and although the natural strength of our defensive works might be sufficient, there still might be some weak point left unguarded; and here it is that antiseptics stand like a coat of mail. Viewed in this light the antiseptic treatment of wounds possesses all the advantages of every other plan, plus its protective power; and all other plans are just so much weaker, lacking this. And do they not still depend on this for their success, although the means vary somewhat? To seal a wound hermetically, and leave it undisturbed until a sufficient time has passed for it to close by natural healing, is to exclude it from the evil influences of the atmosphere, unless they should have already gained access to it, and these may be destroyed before

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hand by irrigation with a strong solution of chloride of zinc, bichloride of mercury, or carbolic acid. Many years ago it was observed that the irrigation of the large wound left after excision of the female breast, with a solution of chloride of zinc (forty grains to the ounce of water,) would often cause it to heal by the first intention. Here was Lister's antiseptic treatment anticipated, though the reason of it was not understood. The chloride of zinc was used under the impression that it might destroy the germs of cancer left after the removal of all visible disease, and its present use is based upon a similar idea, viz: its destructive action on germ life. In the treatment of wounds by all methods, cleanliness, rest, and support, are the three great factors of healing, and with cleanliness is included drainage; for, unless the discharges that form in the depths of wounds have a free escape, inflammatory and putrefactive processes are set up, as all discharges in excess of what is required for purposes of repair are so much foreign matter and inimical to it. But the use of drainage tubes for effecting and preserving drainage is a debatable question, and objected to by some as inefficient, and if inefficient, hurtful, as *foreign bodies;* and by others as unnecessary, as drainage, if proper support and elastic pressure is made, will go on as well without them. If pus has formed, and continues to form in a cavity, whether of a wound or anywhere else, there can be no question but that the freest drainage should be secured, by whatever means are most efficient, whether tubular or capillary; and, perhaps, the latter is best, as not subject to the clogging and closure of the tubes. But if there is no pus, is any other drainage necessary than what may be obtained by proper support and elastic pressure? It is claimed by Lister, and those who follow him, that drainage cannot be secured without tubes, and if the tubes are made antiseptic by soaking in strong solution of carbolic acid, they do not produce any injurious irritation, and the good they do more than counterbalances the slight disturbance caused by their presence. The open treatment of wounds

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is based on the same principle, the prevention of the accumulation of discharges; and if conjoined with the antiseptic treatment is a very good one, especially when there is a probability of much discharge. In lacerated and contused wounds, no other is suitable; as union by the first intention is impossible, and to close them is to invite disaster. But in clean incised wounds, it is not clear that a proper adjustment and support of all the parts of the wound (deep as well as superficial,) is not better than to place a foreign body deep down into it, for the purpose of facilitating the escape of discharges which may not form; and if they do form should readily escape if there is no cavity left to hold and confine them. If there should be a cavity that cannot be closed by properly applied pressure, then it must be drained, and a drainage tube is an indispensable part of the treatment. But it is in the securing of rest that the antiseptic treatment claims its greatest triumph—rest which is truly the *vis medicatrix naturæ;* without which the simplest wound may take on unhealthy action, and with it the very worst may kindly heal; and the longer a wound can be kept at rest the better, until it entirely heals, if possible. By preserving cleanliness, preventing all septic action by antiseptics, and the use of catgut or carbolized silk suture for effecting coaptation, this can be done, and is constantly being done. The largest wounds, even those made by amputation of the thigh above the middle, heal by the first intention, never being disturbed. And it is here that properly applied support is of the greatest service in maintaining rest, and may be said to constitute a part of it; for, without it, disturbance by muscular spasm, and an irritable condition of the nerves and blood vessels of the part is apt to occur and interfere with the healing process, necessitating disturbance of the wound by change of dressings. As long as these remain clean and free from all putrefactive odor, the parts around cool, soft and not swollen or painful, the temperature normal, the pulse quiet and tongue clean, we know that everything is going on well; and the rule here,

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as elsewhere, is to let well alone. It is a question whether, with all their skill and great success in the management of wounds, the great surgeons who were giants in intellect in their day, so long ago, could ever have reached the consummate success of our time, being without the clinical thermometer, which is almost as necessary to the surgeon as the compass to the mariner. No matter how deeply hidden a wound may be by multitudinous layers of Lister's gauze, pads of absorbent cotton or marine lint, as long as the clinical thermometer shows a normal temperature we let them remain, assured that all is well. How could we do this, day after day and week after week, never disturbing the dressings or the wound, but for the unerring guidance of this little instrument?

Having said this much of the antiseptic system, we will pass in review other plans of treatment, taking that as a basis of comparison.

First and foremost for simplicity and success is Gamgee's dry treatment with pads of absorbent cotton, compressing bandage and uniform support, with millboard splints, and dextrine, starch or plaster bandage, where their support is necessary. The object of the splints being to obtain perfect rest; the methodical application of pressure to prevent effusions and promote their absorption; the cotton to give uniform elastic support and absorb discharges, as well as to exclude the air. And with all, the dressing is infrequent. Here we have all the conditions essential to success, rest, support and cleanliness, which are better maintained by this treatment than by any other, except the antiseptic. And looking at the properties that a pad of cotton has of filtering the air free of germs, and thus rendering it non-septic, we cannot but regard this as one of the very best forms of antiseptic treatment, not looking upon the use of carbolic acid, &c., as an indispensable part of such treatment, as anything that will prevent the access of putrefactive processes in wounds (which have been shown to depend upon germ life) will claim the property of being antiseptic.

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Of the same character is the treatment of M. Guerin, with cotton wool dressing, applied with powerful compression, in which the dressings remain unchanged until the twentieth or twenty-fifth day. The dry dressings, like a dry atmosphere, are antagonistic to putrefaction, and in this respect are more conducive to healthy action than moist ones, which may be said to favor it, unless the moisture is constantly being changed, as by irrigation, or is made aseptic by the use of some antiseptic.

As repressive of inflammation, moist dressings, or the cold water dressings, have held a first place among surgeons from time immemorial; but if inflammation is to be regarded as only the first step in the process of putrefaction set up by atmospheric action, our ideas of the use of cold water in surgery must be changed. Does it act simply by depressing temperature, contracting the capillaries and preventing determination of blood, and thus checking at the very threshhold the inflammatory process through its influence on the vaso-motor nerves; or does it dilute and purify the discharges and prevent the development of inflammation through their septic influence. Both of these effects may be claimed for it, and no doubt inflammation may be, and is, prevented by the application of cold, and by water as its medium, and by water for purification. Witness the well-known influence of irrigation in preventing the development of inflammation after severe injuries of joints, and the use of cold water in the treatment of gunshot wounds. And it is here especially that *cold* water finds its greatest usefulness. But through its powerful influence, when constantly kept up, there is always danger of its depressing effect passing beyond the limit of healthy action and lowering vitality to such a point as to cause suppuration and sloughing. No doubt much harm has resulted from the indiscriminating and injudicious use of cold water, but as the great purifier it must forever hold its place. No doubt when employed without sufficient frequency of change to maintain its purity it causes putrefaction, and

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brings about the very state of things it should prevent. And it is here that the opponents of the use of water in the treatment of wounds find their principal argument; that it favors decomposition, as moisture always does. But it is with water as with woman—the pure is the purest thing on earth, the impure as full of danger as the fabled hydra.

And so, it seems, that to settle the question as to whether it is better to treat wounds by the wet or dry method, it is necessary to consider not only the preservation of cleanliness, but the best means of maintaining a healthy condition of the vital processes of repair. If uniform, methodical and elastic *pressure* is more reliable than the *impression* made by water, whether cold or warm, *it* is the best treatment; simply because it is possible to make it uniform, with but little trouble, whereas it is nearly impossible to preserve a uniform temperature. Besides, the *impression* of all *wet* applications, by modifying temperature, is greater upon the nerves of a part, and, therefore, more likely to disturb reparative action than dry ones. The disturbing effect is also greater by chemical action, either as favoring decomposition, or if holding in solution or suspension, irritant substances, producing irritation. For this reason, in the use of antiseptics, it is not desirable to use them in such form that they will be irritating, but rather in a dry state.

Having said this much of the general treatment of wounds, there remains but little to be said of the treatment of the different kind of wounds. Having shown the advantages of the antiseptic treatment, and the desirableness of excluding air from them and leaving them undisturbed as long as the healing process is going on kindly, the best means of arresting hemorrhage and closing the wound must be considered *to this end.* When the bleeding is from *small* arteries, torsion answers admirably, as admitting of complete closure of the wound; and if from *large* ones, the carbolized, or chromicized catgut ligature, cut short, answers the same purpose, the small knot of ligature being absorbed and not interfering with healing. The different forms of acupres-

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sure might be used instead, and for general *oozing*, hot water. After the arrest of hemorrhage and the removal of all foreign matter, the coaptation of the cut surfaces of incised wounds may be effected by suture, pins or plaster, assisted by compresses of oakum or absorbent cotton, and bandage. The suture may be of carbolized or chromicized catgut, or carbolized silk, silver wire, silk-worm gut or horsehair, or it may be the twisted one with plastic pins, which I generally prefer, as admitting of more accurate coaptation. The advantages of the sutures named is their unirritating quality, which permits them to remain undisturbed almost indefinitely. The best, in my judgment, being the carbolized or chromicized catgut, which is absorbed after it has effected its purpose of maintaining the surfaces in contact until they have become firmly adherent to each other, and do not require removal; hence, there is no necessity of opening the wound to the air for this purpose; which is a matter of very great importance. I have seen severe operative wounds doing beautifully until they had been opened for the removal of the sutures (of common silk), when all at once the whole aspect of affairs was changed; inflammation, suppuration and sloughing setting in, and then the trouble of daily cleansing and dressing ensued. With or without suture, plaster may be used for closing incised wounds,—and preferably, the isinglass, which does not irritate the skin,—smeared with castor-oil containing one-tenth part of carbolic acid, to render it water-proof and antiseptic. Or collodion, or strips of lint dipped in collodion, or styptic colloid may be used for the same purpose. And over all, lint soaked in blood, varnish or compound tincture of benzoin may be laid, to seal them from the action of atmospheric ferments. This mode of treatment is only applicable to incised wounds, which may be irrigated with a solution of carbolic acid of the strength of one part of the acid to twenty of water, or chloride of zinc, forty grains to the ounce of water—before they are closed. If inflammation is developed in the wound, as shown by redness, swell-

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ing, heat and pain, all of the dressings, including the sutures, must be removed, and water dressing or poultices substituted until it has subsided, and suppuration is established, when *weak* antiseptic solutions may be used upon oakum; or, if there is any unpleasant odor, indicating sloughing, they should be made stronger. A solution of permanganate of potash, one or two grains in a drachm of Labarraque's solution of chlorinated soda and seven drachms of water, is very good, or Darby's prophylactic fluid; or bichloride of mercury, four grains to a pint of water. All discharge and detritus should be thoroughly washed away at least once in twenty-four hours, by syringing if the wound is deep, by irrigation if superficial,—and the strong (or pure) Darby's fluid, or the above mentioned solution of permanganate of potash in chlorinated soda thrown in, or poured on, so as to disinfect the deeper parts of the wound, before the re-application of the oakum and weak antiseptic solution. Where the suppuration is profuse the wound should be thoroughly cleansed *in every part* and disinfected morning and evening. It is in such conditions that drainage tubes and the antiseptic treatment are specially valuable. And here it is that water must be used for cleanliness, to wash away all putrid matter, and it should be used every time until it comes away clear and free from bad odor. If the antiseptic treatment of Lister, or the dry and infrequent dressings of Gamgee, with pads of absorbent gauze and cotton, applied with methodical uniform compression, or the cotton dressing of Guerin, applied in the same manner, will *prevent* the development of these untoward conditions, a great deal of trouble will be saved. But if they do not always succeed in doing so, we must perforce fall back upon the old and reliable cleansing with water, *to get rid* of putrid matters before resorting to any other means to prevent them. In contused and lacerated wounds, including gun-shot wounds, which are of this nature, drainage must be most carefully kept up as long as there is discharge—and cleanliness scrupulously observed. Antiseptics are most useful in

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preventing the evil consequences of such wounds; and were it possible to carry out the treatment fully, there can be no doubt but that the results of such wounds would be very different from what they are generally. As the free discharge of all pus and broken down tissue is of primary consideration in this class of wounds, it would be folly to close them up tightly—and they should be left open—until healthy granulating surfaces are formed, when they may be brought together by the support of bandage and compresses of oakum, marine lint or absorbent cotton made antiseptic with iodoform, salicylic acid, boroglyceride, etc. As adjuvants to the local treatment of wounds, the hygienic condition of the patient must always be regarded, consisting in a plentiful supply of pure air, and such food and drink as is best suited to his digestive capacity and state of health—and unless this part of his treatment is attended to, everything else may be of little avail. In low states of the system, liquid and nourishing food, easily digested, and stimulants in large quantities, are sometimes our only means of pulling our patient through. Nor must the sustaining power of opium be lost sight of; for where the nervous system has suffered a severe shock from injury, and perhaps a capital operation following it, opium is our sheet anchor, giving strength and endurance, and re-establishing the powers of life. In fact, it gives to that most sensitive part of our system the rest that is indispensable to restoration.

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THE USES AND ABUSES OF VITAL STATISTICS.

BY JOHN RICHARDSON HOFFMAN, M. D., OF ATHENS, ALA.

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Whilst statistics, in regard to its importance, aspires to the position and dignity of a science in itself, still it may properly be considered as a branch of sociology, and like its greater congener, it still presents many unsolved problems for the consideration of its devotees.

Like all the delvers in the deep, dark mines, wherein nature, or rather the God of nature, has hidden the mysterious laws that govern all His vast designs, the student in this branch of science is apt to find what he considers an "open sesame" to all for which he has been seeking, and when he returns to his fellows he always comes with an exultant "Eureka!" Often he finds, as Dr. Billings puts it, that he is still in the category of those who think that they know enough of the subject to become a teacher of others, and yet have only brought up some already tried and discarded theory.

Possibly one reason why so many inquirers in this particular branch of social science fail to find the key to the knowledge which they are in search of is, that they do fully appreciate the magnitude of the work in which they are engaged, which is nothing less than the discovery of the laws governing the production of many of the pleasures and many of the ills of human existence. And as a result of that knowledge an acquisition of ability to increase the good, and to remove, or at least to mitigate, the evil.

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A mere collection of material crudely arranged and improperly classified, is not statistics; if it were, almost every man would be a statistician; but one must know what to collect and how to collect, and tabulate the facts relative to the resources, health, longevity, numbers, and condition of the people of the State, the inferences of one particular class of facts with the others; the intricate relations and interdependence of any and every one with all the rest, before he can claim to be a teacher or an expert in the science of statistics. In short, he must know what he wants and be acquainted with the best way to get what he wants, and also how to use it.

No wonder, then, that long experience, frequent failures, false conclusions, and wasted resources, both of time and money, all find a place in the history of the seekers after truth in this special department of knowledge, but all this must not deter us, for no truth rests on a foundation more sure and impregnable, than does that truth which is properly and legitimately deduced from figures; and the aphorism that nothing is more unreliable than figures, except facts, is the flippant abnegation of a man who knows not how to make a proper use of either. Oh no! the fault is not in the figures, but it lies in the head or heart that guides the hand that makes them, and no more convincing argument, or one that comes with more weight to the listener, can seldom be produced than a simple array of statistics in regard to the subject under consideration. One is moved by the magnitude of the figures and appalled by the array of facts presented to him. Men in all ages of the world since Adam named the living creatures in the garden of Eden, have been engaged in gathering statistics, classifying and arranging facts, and making deductions from the aggregate.

The farmer who conducts his business intelligently, keeps a record of his daily labors. He knows what each one of his varied ventures costs from year to year, and by a comparison of each year with those that precede it, he is able to determine if he is making progress at all, and also from

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what special product of his farm he is getting the most profitable return for his labor.

The statesman must know all about the material progress that the country is making, the effects of foreign immigration upon its development, the result of different forms of government upon the civilization of the people, and the effect of different measures upon the health, morals, and advancement of the citizens of a State. Hence, in all well regulated communities, a census is taken from time to time, showing the number, resources, and condition of the inhabitants in many different aspects, and with these all tabulated before him he can see when one industry needs the fostering care of the government and another should be repressed; if one class of citizens is prosperous and another is the reverse. He can tell the strength of the nation in war, and its resources in peace. If he has to raise a revenue by direct taxation for any purpose whatever, he has only to refer to his tables to find the number from whom it may be collected. In fine, whatever he may want to know in regard to location or movements of population, growth in numbers, wealth and intelligence, distribution of labor, number of people in proportion to area, he gets it all from the tabulated statements of the census, and without this useful auxiliary his judgment must often be at fault in regard to the real condition of the country. So, like the prudent man of business, he takes stock and balances his accounts to find out how he stands, and as the aggregate of a bank account, good and bad, makes a fine showing of solvency until corrected by the deduction of the worthless assets, so the census returns in regard to population may be misleading in many respects unless they are corrected by a comparison with the tables of vital statistics.

All men—special students of the subject alone excepted—look upon a table of vital statistics, however carefully arranged and with whatever of toil and diligence the facts may have been collected, as a matter of curiosity, rather than of use.

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They see no lessons taught, no knowledge of natural law to be derived from its study, and soon turn away from its contemplation to the investigation of more important and more fascinating subjects, and as sanitation has not in the estimation, even of the more intelligent of the laity, reached the position to which it is entitled as an important branch of acknowledged science, we are yet obliged many times to state the grounds upon which we base our claims to have our subject considered as second to none in the importance of its relations to public prosperity. In many countries great importance is attached to the thorough and frequent collection of statistics, because they are of very high value in determining questions of health, duration of life, movements of population, and other matters pertaining to the interests of the State.

In England for nearly fifty years there has been in operation a law regulating the collection and registration of vital statistics. This law has been amended from time to time. The most important and effective of these acts went into operation twelve years ago, and received important amendments three years after its passage. The instruction derived by sanitarians in England from the mass of information contained in the resulting statistics, together with the impetus thus given to that important branch of medical science known as preventive medication, has increased the average of human life in that country nearly three years. In addition to the lowering of the death rate, what a vast amount of suffering, as well as of pecuniary loss, arising as the incidental result of sickness, has been saved to that nation.

"The United States is at a marked disadvantage in comparison with almost every other civilized nation in the matter of vital statistics. We do not know the number of persons born or dying in any year of our political history."

The other nations of the world look upon our indifference to such important matters almost in scorn, and wonder why a people so intent upon acquiring wealth, should pay so

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little regard to the greatest auxiliary in this strife, viz: the finding of the best methods of preserving the health and prolonging the life of our fellow-citizens; for unless a man has health, he can do but little in any pursuit in life, and every one is personally interested in the well being of his neighbor.

The difficulty of getting laws made upon this subject is due largely to the fact, that even intelligent legislators who are aware of the amount of special training, labor, and investigation required on other subjects, in order that the student may become an expert, when they come to consider the matter of collecting statistics, beguile themselves with the idea that it is an ordinary affair, quite easy of comprehension, and they often, by changes to themselves seemingly trivial, take away from the most carefully prepared bill a large measure of its force and effect.

When we take all the difficulties into consideration, it is evident that a long while must elapse before we will have a body of experts in this department of knowledge. At present every writer or teacher has a plan of his own, and more of them agree in objecting to the methods of others, than in anything else, and we have not yet found a way to solve the intricate problems of our science to which all yield consent.

Some one has well said that mere provisions of law will not secure good vital statistics. There must be vigilant administration by expert and thoroughly trained officials; heavy penalties for delinquencies, and a disposition of the public mind which will not only allow but will demand the relentless enforcement of the law. It is only when it is popularly seen and appreciated, that no one can be born into the community nor die out of it, without affecting the rights and interests of every preceding or surviving member that adequate legislation and adequate administration will be provided for recording all the essential facts relating to the beginning and the close of every life."

We are often asked of what use are all the efforts sanita-

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rians are making to collect vital statistics. What good will they do? Will it pay?

If we could awaken only enough interest in the community to compel the taking of the necessary steps, and the expenditure to be made that would clear our borders of the evils resulting to us from even one cause of disease, these questions would be satisfactorily answered. As that point has not yet been reached in our history, I will give an answer to these questions from the stand-point of some who have been investigating this subject. One great object sought to be attained is to secure such data in regard to the diseases rife in the State as to enable medical men to compare with each other the results of treatment, and thus give to every one the result of the experience of all, and whatever tends to make physicians more competent to cure diseases, it needs no argument to prove, is advantageous to the community at large.

"In the matter of life insurance, for which our people are paying so much money annually, it is said that there is as yet no entirely reliable standard by which to determine whether the companies are not charging us too much. This the collection of vital statistics will remedy by furnishing data from which the per cent. of the whole population dying annually may be accurately determined. It has been stated that the money to be saved in this way alone may soon outweigh the entire cost of good vital statistic tables. We need these vital statistics to enable us to determine the changes and the ratio of increase or decrease taking place in the number of the people by natural causes. Unless we have some reliable method of determining this ratio, we are left without any means of deciding how much of our increasing numbers is due to foreign immigration and its effect upon the vitality of our native stock.

"We need this systematic registration of births and deaths in the community for legal purposes—enabling us often to identify individuals in their relation to their families; to determine ages in legal disputes when there is no

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other means at hand to do so, and sometimes in this way to satisfy the ends of justice."

Henry Gannett, Esq., special agent of the census bureau, who went to South Carolina to verify the tenth census, in accounting for discrepancies in the returns, uses this language:

"Comparatively few negroes knew their own ages, or those of their children, and this ignorance extends in some degree to the whites."

What was true in South Carolina in 1880 is to-day true in Alabama. One of the results of a strict enforcement of the law in relation to the collection of vital statistics in this State, will be to make this class of our population take more interest in keeping family records, and for those who fail to do so there will be, in the course of a few years, a public record in each county in the State that will supply the information needed to correct some apparent errors in our census returns.

Already a few whites and many blacks have applied to me for exact dates of important family events, which I was able to furnish them from my records.

I would stop here to impress upon physicians, and others making these returns, the necessity of being exact in the dates, and matters generally, that they report as facts. The value of statistics is in exact proportion to their accuracy, and the man unwillingly leads many into error who, in furnishing items, is careless or indifferent about their conformity to truth.

There is an idea prevalent even amongst intelligent persons, that if they miss the date a few days, or even report the sex inaccurately, that it can make no very material difference. This is frequently due to the fact that the reporters have no clear conception, in their own mind, either about the use to be made of the tables of statistics, or of any valid reason why they should be made at all.

Again, this registration furnishes data for sanitary uses, by giving warning of the undue increase of disease or death

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presumed to be due to preventable causes, and also to indicate the localities in which sanitary effort is most needed and most likely to be of use.

"Another object is the collection of data for scientific purposes, as bearing upon the laws of human development. Every fact in regard to the means of prolonging life is of interest to every one in the community, and none of us unfamiliar with the good that is constantly arising in practical every day life, from the investigations of men engaged in purely scientific pursuits, can realize that it is of any interest or advantage to the public to aid in these inquiries, and for this reason we are constantly met by the objection that this thing costs more than it is worth, hence the constant effort to have the figures of compensation placed at the lowest possible point; but if, as I am trying to show, this registration is vital to the pecuniary interests of the community, then it ought to be well done, and good work merits good pay, and what the public weal demands the public purse should pay for.

One of the most important practical uses of vital statistics, consists in deriving from them a knowledge of the maladies that afflict a community, and thereby determining what is the number of deaths, and what is the amount of suffering due to what, in the present state of medical knowledge, are regarded as preventable diseases.

And first in order come all the various forms of sickness due to malaria. Whilst it may not be true that we know enough of this poison to be able to say that we have it in our power to prevent altogether its production in the laboratory of nature; still we do know enough of its causes and modes of action to enable us very materially to limit its ravages, and as there is no portion of this State where it is absolutely unknown, it may be considered a common enemy in the destruction of which all are interested. The suffering and loss sustained by the living, and yet more, the almost appalling numbers of the dead that would still, but for this fatal poison, be holding their places in the ranks of

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the living, call upon us in piteous appeals for the removal of the cause of so much preventable sickness and death. If we consider, in addition to the deaths caused directly and solely by malarial poison, the increased fatality that it gives to other diseases, we shall be able to form some proper idea of the necessity of obtaining deliverance from it. The number of deaths caused by malarial disease is the more entitled to our attention, for here we can, with assurance of ultimate success, commence our efforts to reduce our death rate, as every person dying from this cause ought to be considered the victim of a faulty system of hygiene. But alas! in our fair southland the beautiful daughter of the god of medicine is not worshipped even in the temples of her father.

The various schools of medicine all have a panacea for the maladies of mankind, and one with full confidence in the ability of his doctor to bring back to him his shattered health, is little likely to purchase immunity from disease at the price of self-denial and abstinence from his favorite methods of indulgence; and then, too, the calm philosophy of religion has something to do in producing our contempt for life, and the lavish expenditure of our vital resources. We hear sometimes that "affliction cometh not forth from the dust, neither doth trouble spring out of the ground," and without grasping the meaning of the Temanite, that trouble comes only as retribution for violation of law, we say with the Arab, "it is the will of Allah," and give ourselves over to something that we call resignation.

Again, the reckless pursuit of pleasure for pleasures sake, fosters an indifference to the consequences, be they what they may. When we inspect the death rate of different places, and find it twice as great in some as it is in others, we come at once to the conclusion that one place is healthy and that another is reeking with all the poisons that destroy human life. Satisfied with our notion, we seek the one and avoid the other. Not thus acts the sanitarian. He suspects that the high death rate of these unsalubrious

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regions is often due to preventable causes, and he gives his time, his money, and his intellectual and physical powers to the searching out of these deleterious causes, and that often, very often, his investigations are crowned with success is proved by the fact of the increased healthfulness of a district following so soon after the adoption of his intelligent suggestions. What an incentive, then, have we for the study of sanitary laws, for it is only by having a clear understanding of the laws of health and disease that we can expect to make progress in sanitary science.

At present the ideas prevalent in the community, and even with many physicians are, that Abernethy's two causes, stuffing and fretting, are the sole producers of disease, and that if we eat prudently, drink moderately, and take things easy, we have done all that is in our power to keep ourselves in health. The subtile influences by which we are environed, unseen and unfelt, except in their effects, are not taken account of at all, and we enjoy health or writhe in agony of pain without stopping to consider whether one or the other is in any way under our control, further than to attribute the trouble to some imprudence that we call a violation of the law of nature, when in reality it is the result of the unrestrained operation of this very law, which law, had we but properly understood it, was under our full control.

We see, then, the necessity of studying the laws of hygiene, that we may arrive at a full understanding of all the causes that occur in the production of health and disease; and as life is a constant struggle against nature, would we prolong our existence and keep our organs always up to the full measure of their capacity, we have need to understand the methods of our adversary.

On the abuse of statistics, without giving any example, I may say there can be no doubt that men can pile up facts and figures, and by skillful manipulation, make them sustain any theory they choose. But this improper use of the logic of figures does not diminish its force, and we can escape the conclusions presented to us only by showing clearly in what proposition of the syllogism the fallacy lies.

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HYPERÆSTHESIA.

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NERVE AND NERVE CENTER FUNCTIONS.

No line of study is more interesting than that of the nervous system. Its functions are of the highest grade, and of more practical value and importance than those of any other portion of the body. The facts and truths connected with its physiology at once claim the attention and interest of all men.

The theme that I present for your consideration in this paper, because of its relative importance, is an interesting one, whether I am altogether correct in my views or not.

The lowest form of nervous structure, consisting in its simplicity of only a few nerve fibrils and a corresponding ganglionic center, is a step higher in grade of functional importance than the structure in the subsidiary parts that it controls. Not only are the nervous structures of a higher grade than the surrounding tissues and organs in the body under their control, but in considering the functions of the nervous system itself, we find its parts differing from each other in the grades of their functional work. They ascend in graded functional importance from the lowest to the highest. We have, for instance, a simple form of distant center, whose function it is to do no more than regulate the calibre of a minute capillary. At the other extreme of the same system, we have the immense and complex brain, whose functional work embraces the highest and most important actions of the man. The physiology of the nervous

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system extends through all the ascending grades, from the one to the other.

Physiology has of late been authorized to include or formulate all these varied and manifold functions, from the lowest to the highest, under the single generic rule or expression, that *they all adjust the actions of the body.* This is a short expression to include so much, but the broad and technical signification given to the term *to adjust* makes it include the functions of the lowest centers as well as those of the highest brain.

The centers of the whole system can be shown to be included under such an expression; and, a step further, it can be shown that they can be all classified in their functions under the two general divisions, that they adjust either to *internal,* or to *external* surroundings.

Within the body, all the different structures, organs, and parts have different functional actions going on in them, and all these varied actions need constant and continuous regulation and control to *adjust* them to each other. The heart for instance needs constant adjustment in its action to accommodate it to the action of the other parts; and so do the lungs, the liver, the kidneys, the stomach and the bowels. The actions of all the internal parts of the body need the constant adjusting control of the nerve centers to equilibrate them and preserve the harmony of the system. The more general processes, like the nutrition of the tissues, the vascular supply of nutritive fluids, the regulation of animal heat, are all more or less also under nerve center management. In fact, the whole inside machinery of the body can be shown to be under the constant adjusting control of nerve centers.

But a very small portion of the nervous system of the body is engaged in internal adjustment. It is a very subsidiary portion that is engaged in adjusting the different parts and organs to their simple surroundings; by far the greater portion and the more important portion is engaged in adjusting the man to his vast and complicated and ever changing external environment.

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There is no anatomical line to show where internal adjustment ends in the nervous system, nor where external adjustment begins. We might say the sympathetic system is engaged in the one, and the brain with its system of afferent and efferent connections is engaged in the other—at the two extremes—each is, to a considerable extent, independent in its separate work; though the ascending gray matter of the cord, the medulla and the cellular tracts in the lower brain are mixed in their functions.

Complex and intricate as the mazes of the nervous system seem to the minute anatomist, and complex and intricate as the functions of the different portions seem to the physiologist, yet there are certain plans of anatomical construction and certain rules of functional action *common to all*, which simplify very much the apparent confusion. Early in the history of medicine it was discovered that the nerves were connected with sensation and motion. A cut nerve would destroy both sensation and motion in a limb. In the beginning of the present century it was discovered that there are two kinds of roots to the spinal nerves, the anterior-motor, and the posterior-sensory. This discovery has proved a key by which much of the mystery of the nervous system has been unraveled. It has led the way by degrees to the fact that all nerve fibres are of two kinds, the one bearing molecular nerve action along their axis cylinders towards the centers, and the other bearing such action from the centers. Originally the terms "sensory" and "motor" were used to designate the two kinds, but all ingoing nerves do not bear sensory action, nor is all outgoing action motor action, so the terms afferent and efferent—centripetal and centrifugal—have more recently been adopted.

The functions of the ganglionic nerve centers or tracts have much more recently been understood, and even now, we may say, they are but partially known; sufficiently so however to warrant the generalization that they all adjust the actions of the body. The nerve centers can all be shown *to adjust* the outgoing action *emitted* by and from them along their

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efferent fibres to the incoming action *received* by them from their afferent fibres; as a matter of convenience, though the circuit of action in them is a continuous one, we can divide the functional action of the centers into three parts or stages, the *receptive*, the *adjusting*, and the *emissive*. The ingoing action brought to a nerve center along its afferent fibrils awakens an initiative action in it that we may call the *receptive stage*; the consequent current of peculiar characteristic action, following the receptive in the center, is the *adjusting stage* (this adjusting stage may be a very simple and immediate one, or a very complex and deliberate one); finally, the result of the adjusting action is emitted along the efferent fibrils to the subsidiary parts. This emissive action of the center is the third or *emissive stage* of the circuit of action.

The vast magnitude of the nervous system renders the entanglement of the various afferent, adjusting, and efferent structures an apparent perplexity, still the classifying proposition holds good and seems fully established, that each ganglionic mass adjusts the action emitted along its efferent fibrils to that received from its afferent fibrils; but, another fact, in the ascending grades of adjusting centers we find varying capacities to do this. As we ascend, the complexity of structure and the complexity of function increases.

Coming in to the median line or plane of the body in opposite directions from the two sides, the afferent fibres bring incoming currents of action to the adjusting centers. We find these adjusting centers built up upon and over against the terminations of these incoming fibrils on the opposite sides of the median plane, whence the incoming currents came; and we also find that these adjusting centers send back to the same side whence the incoming currents came, their outgoing currents of adjusting action along the efferent fibrils; hence we have the decussation of fibres.

We find also that these bilateral pairs of adjusting centers, on opposite sides of the median plane, are connected with each other by commissural connecting fibres that transmit action from one to the other in such a way as to render

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their receptive, adjusting and emissive actions simultaneous and harmonious. Their actions on this account are all "joint actions." Particularly plain and important are these commissural connections in the higher portions of the nervous system.

Localizations of functions in the brain are said to be the most important of recent discoveries. Modern investigators have shown localities in the cortices of the high brain into which currents of receptive action are poured, and other localities whence the efferent currents of action take their start. Some of these localities have been fully established, and others are still uncertain, but enough has been proven to show that in the high brain we have receptive localities and emissive localities; but while these receptive and emissive localities have been established, the whole hemispheres are engaged in the general adjustment, and the commissural connections between the hemispheres make all the receptive, the adjusting and the emissive actions of the one to correspond with and be harmonious and simultaneous with the other.

I have drawn attention in this manner to the functions of the nervous system to show the same general plan of action common to all, from the lowest to the highest centers. We have ascending grades, and the difference in them is one of varying capacities of adjustment. The simplest and least complex grades of centers adjust the internal organs and parts to their surroundings, while the most complex and highest center, the brain, is engaged in adjusting the man to his external environment. The lowest centers are simple affairs compared with the brain, yet the same general plan and rule of action prevails throughout; afferent action is brought to the center by one set of fibres, and efferent action is borne from it by another set; and the circuit of action in the center has its receptive, adjusting and emissive stages. These features are common to all.

In the lower centers the adjusting action is so simple and the emissive action follows so promptly and immediately

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that we call that grade of action "reflex;" higher in the scale we have more complexity of function, and we have a grade that we call automatic action; higher still we have instinctive action; and highest of all we have intellectual action.

How these functions have been obtained or acquired, and how they are produced or performed in the centers, I do not consider in this paper. I insist, though, that as physiologists it is a necessity of the times that we recognize and acknowledge them as pertaining to the parts.

SENSATIONS.

I have now reached a point in this discussion where we are confronted with the question—*What are sensations?*

Without the physiological approach I have made to it in the foregoing short synopsis of "nerve and nerve center functions," it would be impossible to attempt an answer with anything like precision or accuracy. I, therefore, define sensations to be the *receptive actions* in those high centers in the nervous system that reach the grade of being sensitive, as the term is usually understood.

In the light of modern investigation and discovery, it is safe to say that this high faculty belongs only to the brain, and particularly to the high brain or its cortices. The afferent actions that reach the high brain from the different sense organs and other sources, awaken receptive actions in it of the grade that we call sensations. These high structures are sensitive, and they alone are sensitive. The receptive actions awakened in lower centers by afferent actions do not reach the grade of action that is called sensitive, though they too are of that order or sort of action. There cannot, of course, be shown in the ascending graded order of nerve centers or tracts any definite line of demarcation where sensations begin—where the receptive actions begin to be sensations; more probably this is a varying region depending upon the kind of afferent action brought to the parts. If the afferent action is of the usual or customary

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kind to which the structures by original inherited capacity or by habit are practiced, then the receptive action in these centers is not sensated. The cord, the medulla, the cerebellum, carry on their adjusting actions of this kind, reflex and automatic, without these actions being sensated. When their afferent actions are unusual or disturbing, their receptive actions then become sensations; or, more probably, they are carried higher and reach the sensating grades of structures and become sensations. To repeat: the high brain is alone the sensating organ or the sensorium; the lower limit of sensating structure is a variable region. A good definition of sensations is, they are the receptive actions awakened in this high structure by the afferent actions brought to it.

THE PHYSIOLOGY OF SENSATIONS.

I next reach another important point in this discussion; to describe physiologically what constitutes the action that we call sensation.

Action in any of the structures of the body occasions metamorphosis of structure. This is a very important and a very fundamental principle of physiology. It underlies vital action everywhere, and is peculiarly applicable in this connection. In customary, normal, natural action anywhere, the metamorphosis is a *disintegration* of its living cellular substance that the structure has the faculty of *reintegrating* again out of the nutritive fluids or materials in contact with it. Any action in the structures disintegrate; abnormal action disintegrate; but functional action only disintegrates in the way that can be reintegrated again. Functional action, because it is the established mode of action of the part, disintegrates in the way that can be reintegrated again, and disintegrates in no other way. This process of reintegration after functional disintegration is *nutrition*. In nutrition, the structures *reintegrate themselves* out of the food material in contact with them, after functional disintegration.

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To return to the nervous system. In the high sensating brain, as elsewhere in the body, functional action occasions disintegration of structure, but it is the peculiarity, the faculty, the property of these high brain structures that disintegration in them makes or constitutes sensation. When the excessively delicate cells of the sensating brain functionally act, their metamorphosis of structure or disintegration is a change of a peculiarly acting structure, which changing act, because of the peculiarity, is, or makes sensation. The sensation is the result in the changing structures of the functional metamorphosis. The functional structural change is of a peculiar structure, whose peculiarity is that functional action in it makes sensation.

All the incoming actions that reach this high region in the nervous system, along the afferent fibres from the different sense organs and other parts of the body, occasion disintegrating metamorphosis—functional—because it is the established action of the part which disintegrates—makes sensation.

If we accept the above as a physiological explanation of what constitutes sensations, we can very legitimately go further and offer the following: Very evidently the high brain is not sensitive to its receptive actions alone, but, to use the same term, the adjusting and the emissive actions are sensated also. Its receptive actions make metamorphosis of structure, but its adjusting and emissive actions do so too. The whole circuit is in the same sort of structure. The adjusting and the emissive actions of the high brain functionally disintegrate and are sensated, as well as the receptive actions. The brain is sensitive, in other words, to all its work, and the broad sense accompanying all the brain actions we designate by the term *consciousness*. The functional disintegration of structure produces the conscious sense in all three stages of brain work.

The degrees of brain action, the different degrees of consequent brain disintegration, produce different degrees of sensation. In strong, hard brain work, the greater the

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effort, the greater the disintegration, the more distinct the sense of the effort. There is an effort sense, therefore, of brain work, which marks or measures the degree of action required to do certain things. This is what is called the "sixth sense"—the sense of effort. In voluntary muscle work it measures the amount of emitted effort required in that direction, and hence is sometimes called "the muscle sense." It is a very important factor in determining the external adjustments. The external adjustments are very much regulated by this "sense of effort."

If we take the Greek word *aisthesis*, meaning feeling or sensation, and prefix to it the prepositions, *huper*, over, *hupo*, under, and *a* or *an* privative, we have some derivative words denoting different conditions of sensitiveness in the brain. For instance, hyperæsthesia designates an over sensitive condition; hypoæsthesia (or hypasthesia) a condition of brain in which the faculty of sensitiveness is dulled, diminished, or lessened; and anæsthesia, a condition when the faculty is entirely suspended or lost.

In a normal brain the functional metamorphosis of structure occasions a degree of disintegration that can be readily reintegrated. The tone of action in it is prompt, strong, efficient. So much, or such kind of functional action produces a disintegration that can be readily reintegrated. Its sensitiveness to its receptive, adjusting, and emissive actions is all normal, customary, best and pleasant. Such a brain in all its actions works pleasantly, without pain or discomfort.

In a hyperæsthesic brain disintegration from functional action is too great, beyond what is readily reintegrated—the brain is over sensitive.

In a hypoæsthesic brain, from some cause, the functional disintegration is lessened, there is less sensation, less consciousness. The sensitiveness is dulled, lessened.

In an anæsthesic brain all action, from some cause, is suspended. There is, therefore, no functional disintegration, no sensation, no consciousness while this condition continues.

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The conscious sense of the brain is dependent upon functional action. Unless the action of the part is functional, there is no sense. Any other kind of action than functional does not produce sensation. There is no sensation or consciousness unless functional action at the time is going on.

An appreciation of the physiological principles enunciated above will aid us to give a definition to the question—What is pain? When I say pain is excessive sensation, because of excessive disintegration, I believe I am correct. The disintegration of structure on which normal sensation is dependent, is of the kind and to the degree that it can be readily reintegrated, but if the functional disintegration be carried beyond what can be readily reintegrated, tending by excess to disintegrate too much, because there is excessive disintegration, there is excessive sensation or pain. All is functional because it is in accordance with the established capabilities of the part, but is excessive.

If there be abnormal action, inflammatory action for instance, disintegrating abnormally, going on in a distant part of the body, the afferent action borne to the sensating brain, is correspondingly disintegrating, and produces correspondingly disintegrating receptive action, which is, because excessively disintegrating, painful.

Many kinds of abnormally disintegrating action in the distal tissues of the body can begin and transmit painful action to the brain, or rather, make painful action in the brain. Functional excess of action in the muscles can transmit disintegrating action to the brain in the shape of sense of fatigue. There can also be excess of action in the brain itself, which will be painful or discomforting. We can have "brain tire" *per se*, from brain work.

When, therefore, I say pain is excessive sensation, I am sustained by all physiology. Excessive functional disintegration in the brain, whether it be occasioned by excessive functional adjusting action, or excessive functional receptive action, is painful.

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The conscious sense of the brain is dependent upon functional action. Unless the action is functional there is no sense of it. Any other kind of action and disintegration than functional does not produce sensation. There is no sensation or conscious sense unless functional action is going on at the time. For example, any outside force, jar, shock, or concussion, sufficient to stop for the time being, the sensating brain's capacity to functionally act, stops all sensation and consciousness until the brain sufficiently recovers to resume functional work; any medicinal or poisonous agent, in the circulation, that has the physical or chemical property when it comes in contact and chemical union with the exceedingly delicate, rapidly acting colloidal cells of the sensating brain, so as to paralyze, arrest, or suspend their capacity to functionally act, at once suspends the conscious sense, and it is suspended while the chemical contact and union continues to suspend the functional action, and in proportion to the degree that it does this.

When the functional action of the high brain is suspended during natural sleep, there is no consciousness or sensation in proportion to the completeness of the suspension; when there is entire suspension of functional action in sleep, there is no conscious sense; when there is slight or partial suspension of functional action, as in dreaming and the like, there is partial sense; and there is complete and good consciousness when there is complete and full functional action going on—when the brain is fully awake. While functional action in the sensating brain is entirely suspended, there is perfect sleep; while it is only partially suspended, there is partial sleep. In proportion to the functional action going on at the time is there conscious sense.

We can force a condition of artificial sleep with some of our medicines, which is always a condition of suspended functional action in the independently acting sensating high brain. Our anodynes, our anæsthetics, and our narcotics act in this way. In limited quantities they only partially suspend or hypoæsthetize the high brain; in increased and

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larger quantities they entirely suspend action or anæsthetize or narcotize the high brain. These high structures are peculiarly susceptible to the action of this class of drugs, because of the peculiar physical and chemical properties of the medicines, and because of the delicate constitution of the parts. The lower orders of structure in the body, and even the lower orders of nerve centers, are not so readily affected; hence we see during the administrations of anæsthetics the lower structures continue their work, their functions go on, while the high brain suspends. But more of this directly. Sleep, either natural or artificial, is a suspension of functional action in the high brain.

I have said that a normal brain is fully capacitated to disintegrate properly, to reintegrate readily. Its tone of action is prompt, strong, efficient. It does not disintegrate too easily or excessively in its own work, and is not too easily disintegrated by the afferent actions brought to it from distant parts. It takes very excessive functional action or very unusual afferent action to produce excessive sensation or pain in the normal brain.

On the other hand, a hyperæsthetic brain is, *per se*, weak in structure, inefficient in action, too easily disintegrated by its own or by afferent action, and is therefore over-sensitive.

HYPERÆSTHESIA.

This brings me to the consideration of an abnormality of brain whose study I think is of the highest practical value and importance—I mean the study of hyperæsthesia. I think it is one of the most generally prevalent, one of the least understood, one of the worst treated maladies of the day.

Hyperæsthesia is properly the real subject of this paper. I had necessarily to go through the above physiological discussion to reach it in a proper way. It cannot be rightly approached in any other way. Its study, too, tends to confirm the foregoing physiological principles.

The symptoms of hyperæsthesia are varied, though they

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can be embraced under the expression over-sensitiveness; or rather, it needs but to mention this as a characteristic or condition of a person, to have understood the many symptomatic manifestations made of it. He is over-sensitive.

In objectively studying the symptoms of any brain condition in others, we have only the emitted acts to go by, the other two-thirds of the arc, the receptive and the adjusting actions are out of reach of our senses. We only know what is going on in another's brain by what is emitted and is shown in external actions, conversation, deportment and the like. A short way of describing the external symptoms of hyperæsthesia in another is, he "is full of complaints." It does not need that a hyperæsthesic should have abnormally disintegrating inflammatory action going on in any part of his body, for him to be pained or discomforted, or "feel bad." During his hyperæsthesia, malaise is a frequent condition. He "feels bad" when he ought not to. The ordinary muscle actions, or other organic actions of his body, or the ordinary thought actions of his high brain, if continuous or if severe, are discomforting. That boy was a hyperæsthesic, as well as considerable of a philosopher, who said he was "not lazy but born tired." Fatigue is easy in a hyperæsthesic; like the boy, the person is "tired to begin on." Strictly speaking, fatigue is always a brain sense. The sensation is alone in the brain, and it is the organ that is discomforted. If you cut off in any way afferent communication between the muscles and the brain there is no sense of fatigue in them.

The very "effort sense" in a hyperæsthesic brain of even its highest adjusting and emissive actions, soon is one of discomfort and pain; continued or excessive brain work easily occasions discomfort.

The great amount of work performed by the brain in proportion to that performed by any other organ in the body is evidenced by the great amount of blood going to it. It far exceeds that carried to any other organ, and varies in quantity, whether the brain is in waking action or its functional action is suspended in natural or artificial sleep.

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We can have brain tire or brain fatigue in the high brain itself from over brain work. The high brain, independent in much of its high adjusting work, can be excessively disintegrated, discomforted, fatigued by abstract adjusting work, the receptive and the emissive acts not being much engaged or involved in the action.

A hyperæsthesic will complain of inability to think strongly or clearly after much abstract brain exertion, as well as being easily fatigued after muscular exertion.

The hyperæsthesic is easily worried. I would define worry to be the high brain sense of inability to adjust to external surroundings. When there is a continued presentation of externals to which there is a constant necessity for adjustment, and there is the brain effort sense of inability to do so, this is worry. A hyperæsthesic brain is easily pained and also easily worried.

A very large proportion of the multiform symptoms of what we usually call nervousness are due to this brain condition. And in the majority of cases the term hyperæsthesia represents and more particularly designates the true condition than the term neurasthenia.

As another fact, attending the hyperæsthesic condition of the high sensating brain, we sometimes also have a similar condition prevailing in the centers below sensation. Such patients often exhibit badly adjusting control of the lower organs. The heart beats irregularly, or palpitates; the control of muscular action is bad, there is tremulousness; the person is very sensitive to change of temperature, and disordered adjustment of these centers is shown in "taking cold" easily. There is also bad functional control of the stomach, the liver, the kidneys, &c. In aggravated or in congenital cases of hyperæsthesia such a condition of the lower centers is apt to supervene.

The symptoms described above as belonging to hyperæsthesia will at once be recognized as exceedingly common and very prevalent. The condition of the nervons system giving rise to them, whatever you may call it, is said to be

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on the increase in our generation. Especially has this been declared to be the case in our own country, and it is further said to be very prevalent and increasing in all civilized nations. That it is a very common malady seems to be the general consent of the medical profession, and there is the highest authority and a very general confirmation of the statement, that it is more rapidly on the increase of late.

CAUSES OF HYPERÆSTHESIA.

This brings us directly to the question—What are the causes of hyperæsthesia?

In discussing these causes we very naturally divide hyperæsthesia into acquired, and transmitted. How a normal brain can be rendered hyperæsthesic in the life of the individual, is the question in acquired hyperæsthesia; and how much acquired hyperæsthesia is transmitted to posterity, is the question in transmitted hyperæsthesia.

Of course a person originally hyperæsthesic can acquire an additional degree of trouble from the same causes that produce it in the first place in a normal brain, so that superimposed hyperæsthesia is, I think, a very frequent condition, especially in aggravated cases.

I mention the following as the most frequent causes of hyperæsthesia: First, over brain work; second, worry; third, continued pain from bodily sources; fourth, the use of hypoæsthetic drugs.

In the first place, in reference to all these causes, it is well to state that they have to be continued to produce the state of hyperæsthesia. A very short period of over brain work, or of worry, or of pain, or a single dose or two of a hypoæsthetic drug, would not make the permanent condition of hyperæsthesia. There can be a short condition easily recovered from, and one more fixed; the fixed condition is the one more properly called hyperæsthesia.

First—Over brain work—adjusting work—has long been set down as a cause of all kinds of brain failures. I think as a cause by itself, or of itself, it has been very much over-

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rated. Tested accurately, we would find over work of the brain about as often produces brain injury as over work of the muscles produces muscle injury. When over brain work does injure, I think most often (and so often that it is the rule) there is already brain defect existing, and for the real cause we have to go further back. The natural disintegrating processes that produce the painful feeling of brain tire and fatigue are a barrier to excess in this direction, in the same way as in muscle tire; and dangerous excess so as to induce a permanency of the condition seldom obtains. Straight forward, direct, simple brain effort is seldom a cause of permanent hyperæsthesia.

Second—I mention worry as a cause of hyperæsthesia. I defined worry to be the brain "effort sense" of inability to adjust to external surroundings. Worry, therefore, occupies in external adjustment a parallel position to pain in internal adjustments. Continued worry leaves the brain hyperæsthesic in proportion to its lack of tone, or want of nutritive, recuperative, reintegrating power; and the condition continues a longer or shorter period according to the lack of this capacity to recuperate.

Third—Continued pain is a cause of hyperæsthesia. Any kind of disintegrating action in the periphery sends disintegrating action to the brain and the receptive action, excessively disintegrating, is, or makes pain. I need only appeal to your experiences to illustrate this. A person a long time pained is hyperæsthesic, he exhibits the symptoms described, even after the removal of the cause of his pain.

Fourth—The next cause of hyperæsthesia in a brain originally normal, is the continued use of hypoæsthetic drugs.

There is a long list of drugs in our *materia medica* that have their specific effects high in the nervous system, that may be said to begin at the top. The most frequent object in their administration is to abate or suspend sensation. From their property to do this they obtain the names of anodynes, anæsthetics, and narcotics. Taken into the circula-

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tion, diluted in the blood, such drugs do not first have effect upon the slower acting, less delicately constituted structures of the lower organs, nor of the lower nerve centres, but upon the peculiarly susceptible, rapidly acting, sensitive cells of the high brain. Whether the drug produces its specific effect of lessening or suspending sensation and consciousness by "hardening" or "coagulating" these highly delicate colloidal structures or not, the suggestion is a plausible one, especially in reference to some of them like chloroform or ether, or chloral, or alchohol, that evidently have this effect on colloidal matter outside the body.

However the specific action of anodynes or an anæsthetic is obtained during their administration, the fact is plain, they partially or entirely suspend functional action in those high centers that reach the grade and have the faculty of being sensitive. A small dose will lessen or diminish conscious action in the high brain, and a larger or full dose will entirely suspend it. The moderate degree of effect is hypoæsthesia, and the full effect is anæsthesia.

Dulled or diminished sensitiveness, for physiological reasons, is a pleasant condition. If the sensating brain is so fixed or affected by a drug that for the time being it can have no particular sense of anything, the condition, even though artificially produced, is a pleasurable one, because it similates, so far as brain sensations go, the happy condition of perfect adjustment. Apparently there is perfect equillibration internally and externally. Especially is this the case if there is at the time a relief from the sense of pain or discomfort. Relief from discomfort is pleasant, no matter if the relief is obtained, not by removing the cause of the discomfort, but by fixing the sensating organ so that it cannot feel, or be discomforted.

Brain rest, even obtained at the expense of injury to brain structure, is still, while it lasts, a pleasant feeling, simply because the sensating organ cannot sensate. In the "happy state" of perfect adjustment naturally obtained, the brain sense is one of entire equillibration of all internal and ex-

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ternal disturbances. The functional action of the sensating brain is diminished or suspended by an anodyne or anæsthetic so that the sense of perfect adjustment is artificially obtained, whether the actual condition of circumstances be so or not, and it is always an artificial condition at the expense or injury of these parts, even though it may be pleasant for the time.

The condition of hypoæsthesia is more often sought after in medicinal treatment than anæsthesia; indeed, when I say it is the most frequently sought of all medicinal effects, I am correct. Notice how frequently the anodynes and light doses of the anæsthetics are employed in the practice of medicine. Patients have learned to demand, and expect in every trouble, that we first allay their pains.

The fact that the hypoæsthetic condition, even in an undisturbed normal brain, is a pleasant one, has led to the use of several of the milder, less dangerous of these drugs as common luxuries. The consumption of some of them for this purpose is enormous, and the secret of their so general use altogether lies in this property of theirs of hypoæsthetizing the high brain. The consumption of tobacco and alcohol alone, among civilized nations, has grown to immense proportions. Their specific injury in the short time they have been in common use can be readily shown on succeeding generations, in the increasing hyperæsthesia, until now we are almost a race of hyperæsthesics—very few feel continually well—to feel bad is a common condition in society.

Exactly in proportion to the amounts taken of these drugs and the frequency of the repetition of the doses, does the local hyperæsthesia of the brain increase, until the constant user, of even as mild a one as tobacco, cannot allow his circulation to be free from the nicotine, or his sensating brain to be rid of its effect, without finding himself in a constant state of malaise and discomfort. Without he is continually hypoæsthetized, he is in constant discomfort.

The physiological explanation given to the mode of action of these drugs would, *a priori*, lead us to expect that the

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hypoæsthesia induced by them would, as soon as the brain is allowed to show its proper condition by riddance from the drug, be followed by a state of hyperæsthesia. Science explains what practice demonstrates. The traumatic chemical effect of any such medicine upon the delicate sensating cells of the sensorium leaves them more easily disintegrated by subsequent action—more sensitive. Hypoæsthesia or anæsthesia, produced by any drug, is always followed by a condition of hyperæsthesia. A single administration of one of the stronger anæsthetics is followed by hyperæsthesia, which is transient, of but few hours duration, because the repair can be made if sufficient time be allowed; but the continued use of even the very mildest of these medicines, will in time be followed by more or less permanent injury; and the habitual user of one of them will run sometimes for weeks and months after he has left off his drug, with more or less bad feeling and easy discomfort and pain, because it always takes time and hygienic observances to correct the condition.

When the "habit" is fixed on a man he cannot think strongly without discomfort, nor can he exercise without fatigue, unless he is hypoæsthetized. He starts his day's work in discomfort and ends it in pain, unless he have constantly in his circulation a certain amount of caffien, nicotinie or alcohol; and their continued use increases his hyperæsthesic condition, until he frequently reaches such a degree of the malady, that he has to take repeated doses of all three of these agents to allay his increasing discomfort. A little examination and inspection in society will show you any number and all shades and degrees of such hyperæsthesics. The inebriate is an example of an extreme case, but there is every shade.

In the brain work of competitive business, or in the steady muscle work of manual labor, a hyperæsthesic quickly reaches a condition of brain tire or fatigue, and it is very tempting for him to deaden his sense of his discomfort with his tobacco, or his alcohol, or both. Every day brings round

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the necessity for renewed exertion, and every day finds him more and more hyperæsthesic under the use of his drug. It is very seductive for him to constantly repeat the medicine in increasing doses as his hyperæsthesia increases. You find numerous cases where the use of these drugs, begun it may be in the first place as luxuries, simply to obtain the hypoæsthetic pleasure they occasion, in time produces such constant and continuous discomfort of the sensating brain, that they have to be continued to relieve the pain of the injury they are themselves doing. It takes a brain strong in the first place, with capacity to firmly adjust action in accordance with wise rules of conduct, to resist, or withstand, or recover from the injury, and but few are able to do it. Especially is such conduct hard to remedy when you find even medical men encouraging the use of these drugs with such assurances, as they are "beneficial," "strengthening," and "nourishing." More injurous philosophy was never invented. To not appreciate the brain effect, and the brain injuries, following the use of continued doses of even the milder of these drugs, is a sad opprobrium upon our profession. The hypoæsthetic brain effect is the object sought after in their use, and the hyperæsthetic brain injury is the first and most frequent result. Hyperæsthesia acquired, and hyperæsthesia superimposed, is so obviously abundant and frequent in society from this cause, that the most casual observer can find it. This state is always a sequel to the use of any one of these drugs. It is slight and temporary when the administration of the drug has been slight and temporary, and is severe and continuous when the administration of the drug has been severe and continuous. It is always the constant condition of brain in the man who makes the "habit" of the repeated use of any one of them—no matter how mild a one he may select, even tobacco; and it is much more obviously the condition with the user of a stronger one like alcohol or chloral or opium. It is a brain injury that fixes the habit, and continues it. I cannot emphasize this fact too much, nor draw your atten-

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tion to it too strongly. There is nothing in all sanitary medicine that equals it in importance to-day.

The condition of brain known as inebriety is a form of excessive hyperæsthesia. Most usually it is congenital, transmitted from a parent who himself was a hyperæsthesic from the use of alcohol, and is a transmitted defect peculiarly and particularly adapted to the use of that drug. The drug fits it in to relieve the discomfort, because the injured condition resulted from its use. The returning spells of drunkenness are due to returning periods of excessive hyperæsthesia, and, accompanying it, of defective adjusting capacity. The periods return like epilepsy, or like recurrent mania, and the man has spells of excessive bad feeling, when, his adjusting capacity being feeble at the same time, he yields to temptation.

The repeated use of hypoæsthetic drugs, I repeat, is a most frequent cause of the hyperæsthesia of the day.

I have mentioned brain tire, worry, pain, and the use of drugs as frequent causes of acquired hyperæsthesia, or of superimposed

TRANSMITTED HYPERÆSTHESIA.

I will occupy you but a few moments longer in speaking of transmitted hyperæsthesia.

The more we know of physiology and biology the more important grows the study of heredity. "Like begets like," is an established law of nature. Nothing is more true than hyperæsthesics beget hyperæsthesics. I need but draw your attention to this fact to have you observe it on every side. The kind and condition of brain the parent has he is particularly liable to transmit to his offspring. Nothing in all sanitary science is more important than the questions that relate to the best integrity of brains of succeeding generations, and nothing has been more neglected. Nerve center brain functions produce man's leading characteristics. His individuality and prominence are dependent upon them. He is characteristically a spherically complete man

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when he has a brain perfect in its functional capacity. Brain capacities and brain functions are peculiarly and particularly transmissible from parent to child. The excellencies and the defects of families and races and nations are dependent on this fact, and the more it is appreciated the better for any people.

The child inherits the kind and condition of brain it has from its parents. At the time, either parent's brain may be temporarily defective, from some cause, and a permanent defect be the heritage of their child. It is well, I often think, that the chances of the transfer are divided or mitigated between two, the father and the mother.

Temporary hyperæsthesia in the parent, from any of the causes I have mentioned, can descend as permanent hyperæsthesia to offspring. It does not need the trained eye of an expert to watch this law of sequence, or to select the cases that verify it. They are abundant and common.

You hear frequent mention of the worry of men, in their business pursuits, being a cause of nerve center troubles. I think the mother is much more frequently injuriously worried than the father, and when worry in the parent is a cause of transmitted nerve center defects, it is, in modern life, more often found on the mother's side than the father's. In the cases of business or drudgery of labor you frequently find the father allaying his discomfort and fatigue by hypoæsthetizing his brain with a drug, and becoming more and more hyperæsthesic thereby; and the mother, often a congenital hyperæsthesic, made more so by the cares and worry of an increasing family. When this condition of affairs obtains, look out for families of hyperæsthesic children. I think I can find numbers of such families for you in every community.

It is needless for me to say in this connection, that in direct proportion to the degree of his or her hyperæsthesia at the time, a hyperæsthesic person is not fit to become a parent. In aggravated forms of this condition of brain, produced by any of the causes I have mentioned, neither

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parent is in a proper condition to transmit a normal nervous system, particularly a normal brain to offspring. If you inculcate this fact in your sanitary advice, I think you will do much good. It is a common regret with physicians, particularly in the treatment of nervous diseases, that they can't "go back two or three generations" with some of their cases. It is an experiment worth the trying in preventive medicine, that we begin two or three generations ahead.

A marked case of congenital, or acquired, or superimposed hyperæsthesia goes through life with poor comfort and little happiness. Muscle action, stomach action or digestion, the regulation of bodily temperature, processes of his body that he ought not to feel, to him are frequently sources of bad feeling, discomfort or pain. Such a person feels bad continually. He is too cool or too hot, when other men are not complaining. He is dyspeptic and easily fatigued or worried. This condition is often the peculiar heritage, and the real state and legacy of brain and body in the fretful baby, the cross and irritable child, and in the worried and irascible adult—born so.

I believe that colic in the infant is more due to the condition of his nerve centers, than to any very special defect in the digestive apparatus, and dyspeptic hyperæsthesia was the condition in the parent. You most often see such a child well nourished, but his rudimentary brain is pained by digestive processes that ought not to pain, because he has a specially defective channel of ascending centers, that send to his sensitive sensorium currents of disturbing and disintegrating action, the adjustment of which ought altogether to lie below the sensating grade, not reach the high brain.

A woman with normal nerve centers and brain, does not suffer the same degree of pain in labor, that the hyperæsthesic does. With her the greater part of the physiological processes of labor are fully conducted by centers of reflex and automatic action. The sensating brain knows nothing of a large part of the labor. The simple muscular contractions

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of the parturiting womb do not give her pain. The adjustment of most of the labor is conducted below sensation. Only the lateral pressure or distension by the descending fœtus she sensates, and in some cases, even this part of the labor gives little pain. The hyperæsthesic, on the other hand, from beginning to end of labor, suffers more than she ought.

While the hyperæsthesic is one of the most unsatisfactory of patients, he is a constant applicant at the physician's office. His constant bad feelings keep him constantly medicating. The regular profession are largely indebted to him for practice, and quackery flourishes in the land in consequence of and in proportion to the number of such persons.

TRAINED HYPERÆSTHESICS.

There is one class of these patients that I call trained hyperæsthesics. You find them in both sexes, but most frequently among ladies of the better class. These persons are usually of sufficient means and leisure to be able to make the study of their feelings the business of their lives. Not having the necessity of making a living, or other engrossing duties to hold attention in other channels, such women, by long and practiced introspection, become thoroughly egotistic. It is hard to divert and restrain such a line of practiced study, when it has been the work of years, and yet this is very essential in the treatment. Necessity or a sudden change of surroundings or circumstances may sometimes do it, but advice, or persuasion, or physic seldom accomplish it. Especially is it hard to do, when affluence furnishes any number of sympathizing and over attentive relatives and friends, whose solicitations and sympathies tend to foster and fasten the malady. Such a woman is usually a congenital hyperæsthesic. As a child, she was educated to heed her bad feelings by every device that affectionate parents could give, until they turned in the attention that properly belongs to external matters. If you wish to see the highest degree of abnormality of over sensi-

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tiveness, watch such a patient. Weir Mitchel has discovered he cannot get one well under the surroundings of home life. It takes a removal of months from the teachings of such a school, and every kind of a device for the diversion of attention, with good nutrition, and massage and electricity for muscle culture, to perfect a cure. Even then a large proportion of such cases relapse.

He is a skilled physician who knows how to keep such a patient long in hand. She is apt to "try all the doctors." Any one who can find in her some new throat disease, or new womb disease, or old malady under a new name, can hold her for a shorter or longer period, as he panders to her life work. Cases of trained hyperæsthesia are in every physician's practice. They form a large percentage of the chronic cases.

TO RECAPITULATE.

1. Over brain work, worry, pain, and drugs produce hyperæsthesia. Any one of these causes alone can produce more or less hyperæsthesia. In aggravated cases we most often find two or more of them combined.

2. Hyperæsthesia breeds hyperæsthesia. Congenital hyperæsthesia has overlapped so much, and has been increased so much by the causes mentioned, especially by the general use in modern times of the drugs that produce it, that it is one of the most common maladies of the day. Hygienic instruction is very much needed in this particular.

Appointed by our worthy President to report upon some one of the diseases of our State, I have selected this one. I have drawn your attention to it with the full conviction, on my part, that there is no subject more important. The questions embraced in its consideration relate to the integrity of the most important organ in the body, whose functions have been so much misunderstood that the injury done has not been recognized as pertaining to it, and consequently has been wrongly interpreted and wrongly managed. The study of this subject not only interests and concerns the present but future generations.

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THE PRESENT ASPECT OF THE GERM THEORY.

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Throughout the centuries thinking men have been groping, studying by abstract reasoning, from clinical data, to account for various epidemic and endemic contagious diseases. The occult forces of nature have been made to play their part in rounding out an essay, and atmospheric, telluric and electric conditions have all been blindly invoked to help from saying plainly, we know nothing about it. An epidemic condition of the atmosphere has been a frequent mode of expression in accounting for epidemics, but in what this condition consists no explanations have as yet enlightened the world. The time has come when some more positive ground is demanded upon which to build opinions, and the principles of exact science are being brought to bear upon the causation of disease. How far we have advanced in this line of research and demonstration, will be our study in this paper.

The air is full of floating particles. While some of this solid matter is dust, a portion of it is also organic matter, the bacteria which we are studying.

The germ theory of disease, stated broadly, is that all contagious or epidemic diseases have their origin from the entrance into the body of a foreign organic germ which there multiplies itself, and subverting all physiological action by the condition of its own life, gives rise to a specific fever or disease. These microscopic bodies belong to the order of bacteria which you see on the diagram. Kohn's classification of these bodies is according to their form,

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viz: Micrococci or spherical bacteria; oblong bacteria, or simply bacteria; bacilli or rodlike bacteria; spirilli or spiral bacteria. These multiply themselves by fission, that is, by continuous division, each part forming a complete whole, which again divides, and thus, as the process takes from a few minutes to a few hours, the increase is wonderfully rapid under favorable circumstances. These bacteria belong to the lowest order of vegetable life, generally classed with the fungi. Besides the mode of propagation by fission, many of them also develop spores. These spores are formed by the enlargement of a portion of the bacteria into a sack or capsule, which, when mature, bursts and sets free in great numbers very minute particles called spores, which are too small to be studied separately, but which develop into full bacterial life. When we come to speak of anthrax we will find that these spores play a very important part.

Before entering upon the study of the action of bacteria as parasites within the animal, including man, it will be well to pass as rapidly as possible, consistent with clearness, over their general action in processes which we see daily, viz: putrefaction and disorganization, and reorganization of chemical forms.

The air is full of floating matter, and these organic particles form a part of the mass. I cannot better set this before you or show you the action of these bacteria than by a condensed account of Tyndall's experiments in 1868. While studying the decomposition of vapors by light he found it necessary to have an atmosphere free from the floating particles which reflect and scatter light. After trying several modes of eliminating these particles without success, he hit upon heat as an effective agent. He placed the tip of the flame of a spirit lamp beneath a concentrated beam of light, and found that as it passed through this heated air it was invisible. A red hot poker placed beneath the ray accomplished the same result. He then prepared a platinum tube and filled its calibre with platinum gauze. He allowed fifteen inches of atmosphere to pass through the tube thus

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prepared while cold, and it was full of floating matter. He heated the tube and gauze to a red heat and passed thirty inches of atmosphere through it, and it was optically empty, that is, there were no floating particles to scatter light, and thus reveal its rays, but darkness, nothingness. He says: "Nothing could more forcibly illustrate the invisibility of the agent which renders all things visible. Another thing is also proven, viz: that these floating particles are largely organic, else heat would not thus destroy them. Air filtered through cotton wool tightly packed is also thus rendered free from organic matter.

Having thus proved that the air is full of organic life, he proceeds a step further and proves that infusions of various kinds of meat and vegetables placed in flasks and boiled so as to destroy all germs which they may contain, and these flasks then exposed to only optically pure air will keep indefinitely without change, while an equal number of flasks of the same infusions exposed to the common atmosphere rapidly underwent putrefactive changes with the development of swarming bacteria. Further, that a single drop of this latter infusion added to a flask that had remained without change in a purified atmosphere, started at once putrefactive changes in it, with the development of myriads of bacteria from this single drop, and all the flasks that had remained pure at once took on the same changes upon exposure to the common atmosphere.

Here, then, is the proof that the air we breathe is full of germs capable of multiplying themselves with almost inconceivable rapidity in fluids suited to their culture, and that some, at least, of these germs are the sole agents of putrefactive change. It may be safely formulated—no bacteria, no putrefaction. We see evidences of this frequently in our clinical experience. A woman carries a dead fœtus in her womb for days, and sometimes the product of an extra uterine pregnancy for years, without putrefactive changes. At the birth of such a fœtus, several days dead, the cuticle will slip, showing prolonged maceration in the maternal

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fluids, but no smell or sign of putrefaction is present if the labor has been sufficiently rapid to prevent the action of these agents, which may gain access through the manipulations of the accoucheur in the vaginal canal. Mark the difference between this fœtus shut up within the womb and excluded from the action of bacteria, and a portion of placenta left in the womb through the carelessness of the accoucheur. Bacterial life has gained access to this through the manipulations of the physician and the vaginal canal. Putrefaction sets in through the agency of these germs, septicæmia seizes the patient, and holds out the danger signal.

In former years it was thought that all contagious diseases were the results of miasmata arising from decaying organic matter. It was also thought that fermentation was a process of decay. When Cagniard de la Tour discovered the yeast plant in 1836 and announced that fermentation was caused by the vital activity and growth of this fungus, it was received with great tardiness. So high an authority as Gay Lussac, while admitting the existence of the yeast plant, insisted that the process of fermentation was caused by the dead or dying portions of the plant under the influence of oxygen. Everybody now knows that if we kill the yeast fungus fermentation ceases, and that it only goes on under the influence of the living and growing plant.

The question soon began to stir the minds of scientists whether many disease of the human subject might not be traced to a like vital action of some organic germ, such myriads of which are floating in the air around us. Long before these discoveries, about the middle of the eighteenth century, Linnaeus put forth this idea that the contagious diseases were the result of germs floating in the air, which gained access to the human body and produced by their development therein the phenomena of disease. He reasoned that as each disease produced only its own kind it must have its own specific germ, as certainly as you must have the acorn to produce the oak or the seed of the olive to produce the olive tree.

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Science is endeavoring to demonstrate as a fact what Linnaeus defended as a theory. Perhaps the first decisive step in this direction was that of Pasteur in studying the silk worm epidemic. We all know that the culture of silk was and is an important element of industry in France. In 1853 the weight of cocoons produced was 52,000,000 pounds, valued at 130,000,000 francs. A disease attacked the worms and made such havoc that in 1865 the product had fallen to 8,000,000 pounds, involving a loss in a single year of 100,000,000 francs. The inhabitants of the silk region were as much demoralized as we were a few years ago over the cotton worm. Every new thing that was vaunted as a cure was tried, and it was written in 1860 that "the pharmacopœia of the silk worm was as extensive as that of man. From chlorine to sulphurous acid, from nitric acid to rum, from sugar to sulphate of quinine, all have been invoked in behalf of this unhappy insect." Everything, however, failed, and in 1865 Pasteur betook himself to the infected region to study the disease. It was characterized by black spots which cover the silk worm, and from which the disease took its name, pébrine, a name also given to the plague in the human subject. The worms attacked made an uneven and stunted growth, fed poorly and died early. Pasteur found these black spots to be filled with living corpuscles, and not only the spots, but the blood and silk organs of the insect. They often went through the instinctive automatic motions of weaving their cocoon, but with no result. Its organs were filled with these parasites instead of the natural secretion, from which they spin the silk. He fixed upon the study of this corpuscle, universally found in the diseased worm, and bent the powers of his mind and a well trained microscopic sense to trace out its natural history. The cycle of the silk worm is—1st, the egg; 2d, the worm; 3d, the chrysalis, which develops into the moth. These moths then lay the eggs which start another cycle of life. His first great step was the demonstration that the germinal disease was present in the egg laid by an infected moth. It

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was hereditary. While the discovery of it was beyond the microscope in the egg, and sometimes in the very small worm, it invariably developed in the worm, with the whole train of pathognomonic symptoms. He propagated the contagion by feeding healthy worms on leaves smeared with these corpuscles rubbed up with water. For the first week they remained apparently well, but by the eleventh day they were found generally infected with the parasite, and by the 16th day were found so full of them that the wonder was that they could live. By the 25th day only six of the thirty used in this experiment were living, and the microscope showed them to be full of the parasites. Having shown that the alimentary canal was one avenue through which they gained access to the body, he next inoculated them with the corpuscles and produced similar results. Noticing that they often wounded each other with their claws, he proved that they by this means inoculate each other, and having washed their claws found the corpuscles in the water. He watched the development of these parasites under the microscope. After an infectious repast he would find the number daily increasing until he counted 1500 within the field. Here, then, we have a disease in one of the lower animals demonstrated to depend upon a living parasite, having a period of incubation, the infection propagated either through the alimentary canal or through abrasions in the skin and hereditary in character. The epidemic was controlled by weeding out all diseased moths, and thus hatching only healthy eggs, and France now owes no small measure of her prosperity to this first thorough series of studies and experiments by Pasteur, and the germ theory of disease also owes much of its impetus to him. (In this description of Pasteur's work I have borrowed largely from Tyndall, as I had not access to the original publication.)

Another disease which infects man as well as the lower mammalia, is demonstrated to depend upon a germ, a parasite, a bacterium, viz: Anthrax, called also malignant pustule and charbon in the human subject, and splenic

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fever in cattle. Gross speaks of it as murrain in cattle, and of malignant pustule as the result of the contagion of murrain, and anthrax is treated by him as synonymous with carbuncle. In his edition of 1859, the only one now at hand, he says: "What the nature of the poison is which produces this disease, or when, how, or where it is developed, is a question which we have no means of solving. It appears to be of zymotic character, like the virus of small pox and chancre, and to be generated by most of our domestic animals, especially cattle dead of murrain," etc.

In this, our day, we know when, how, and where the disease is generated, and his comparing it to the virus of small pox or to chancre is not unhappy, for it is to be hoped that the specific germ of these diseases will be in the future as fully demonstrated as is the germ of anthrax.

Anthrax, malignant pustule, charbpn, splenic fever, has its origin from a parasite, a bacillus, called bacillus anthracis. It multiplies itself by fission and also by spores. Within the body it is not known that it develops spores, but in artificial cultures it often, instead of segmentation, grows into long continuous rods, in which they can be seen as brilliant spots, and which, when set free by the rupture of the bacillary envelop are oval in shape. These spores under culture in a suitable soil, at the temperature of the body, elongate at one end and change into growing rods or true bacilli, and repeat the cycle. Twenty-four hours suffices for the process. The bacillus is easily destroyed by exposure to a temperature of fifty degrees, or by dessication. But these spores may be boiled, baked, dried or treated with germicides, and still for years retain their vitality, ready to spring into life and development whenever it meets the proper conditions. The bacillus develops external to the body naturally in soils overlying an alkaline substratum, and, having deposited its spores, is practically ineradicable. Cattle feeding there, perhaps years afterwards, may receive them into their systems and develop the disease. They may find access to the body through the alimentary canal, the

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lungs, or through abrasions of the skin. Flies and mosquitos sometimes inoculate with them.

In man the parasite gains access to the body by eating the meat of infected animals and by handling infected hides, wool, hair, etc. Prof. Law reports that, in the West Indies in 1870, fifteen thousand men died from eating meat infected with this parasite. In a district of Russia there died of this disease, in three years, forty-six thousand domestic animals, and five hundred and twenty-eight human beings. In 1851, in St. Mary and Vermillion parishes, Louisiana, great numbers of cattle, including horses and mules, died of it. The disease is endemic in some parts of Europe, and owing to the facility with which the spores may be transported, greater or less epidemics of it are of frequent occurrence.

Koch, with his known care and honesty, demonstrated the connection between the bacillus anthracis and anthrax as conclusively as Pasteur demonstrated the parasitic nature of pébrine in the silk-worm. Pasteur repeated his experiments with the same results. Koch produced the disease by inoculation with the one hundred and fifteenth successive culture of the bacillus. So numerous have been the confirmations of his experiments that all controversy regarding it has long since ceased.

Like all infectious diseases, anthrax has its period of incubation, which represents the time necessary for the germ to multiply itself sufficiently to subvert physiological action. In artificial production of the disease, this period is longer or shorter, according to the number of germs introduced into the system. Toward the end of the period of incubation, the parasites have entered the blood current. They are arrested in the capillaries of the various viscera, and there continue their growth until they sometimes fill the capillary network. By the process of staining these bacilli, Koch claims to have demonstrated the capillary network more beautifully and perfectly than by the finest injections. How these parasites act upon the animal has not

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been determined, whether by appropriating to itself the oxygen of the system, thus killing the animal by asphyxia, or by their general embolism of visceral capillaries, thus destroying their function, or by a poison resulting from their own life. Probably all these play their part in the diseased process. Like all contagious diseases, one attack survived, protects, as a rule, against future attacks. In consideration of this, Pasteur has tried to protect herds by vaccinating them with the bacilli, rendered less virulent by cultivations under circumstances to weaken their vitality. He claims great success. Koch disputes his conclusions, and thus the matter must be left *sub judice* until more ample experience and more exact modes of preparing the virus have cleared up the subject.

INFLUENCE OF BACTERIA IN SURGERY.

We have all heard much of listerism and antiseptic surgery. Its foundations are firmly laid on demonstrated facts, while the peculiar technique of Lister, having for its object the destruction of bacteria and the prevention of their gaining access to the wound, are not found necessary. Some of the most noted surgeons and boldest operators have discarded listerism and never use the carbolic spray, among whom are Lawson Tait, and Billroth, but they nevertheless observe most radical antiseptic precautions, looking to the same end aimed at by Lister.

In his work on gun-shot wounds, in 1872, Klebs announced as a result of his studies that the wound itself and all the tissues engaged in the morbid processes, and all organs affected by it, contain bacteria. They were present in metastatic abscesses in lungs and liver, and in the tissues contiguous to them; in serous surfaces opened by the track of the ball and in those not opened but lying contiguous to the wound, and in leucocites more or less remote from the track of the ball.

Now, when we remember that bacteria are the active agents in putrefaction, and that in the track of a gun-shot

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wound there is always a good deal of necrotic tissue, we cannot avoid the feeling that their presence means mischief, and that septicæmia or pyæmia are probable results. Klebs injected into animals a putrescent liquid containing bacteria, and produced pyæmia with metastatic abscesses. He injected the same liquid after filtration through clay, thus depriving it of bacteria, and produced septicæmia.

In 1878 Koch published a series of experiments bearing upon this subject. He injected five drops of putrid blood into the cellular tissue of the mouse, which was followed by immediate prostration, and death in a few hours. No bacteria were found in the blood, and the injection of a few drops of it taken from the heart into another mouse caused no sickness. He injected about half a drop of the original putrid blood into other mice, and while some escaped infection entirely, about one-third of the animals sickened in twenty-four hours, were depressed, breathed slowly, were torpid, and died in about forty to sixty hours. Examination showed œdema at site of puncture and enlarged spleen. He injected from a tenth to a half drop of this œdematous serum or of blood from the heart of the dead mouse. During the succeeding forty to sixty hours, the same symptoms were developed and the same result. From this second series of animals he inoculated a third, and so continued for seven or eight inoculations with like results, and so virulent became the poison that the point of a scalpel dipped in the blood and inserted into the skin was followed by sickness and death. He calls this disease septicæmia. In all the tissues, the serum and the white blood corpuscles, he found a rod-like bacterium, a bacillus, which readily stained with aniline colors. Subsequent cultures of this bacillus, by which it was freed from all animal tissues and from all other bacteria, produced by inoculation a fatal infectious disease. This bacillus, while so fatal to the mouse, was perfectly innocuous to the rabbit and field mouse. But he claims to have produced septicæmia in the rabbit by another bacterium and pyæmia with metastatic abscess by

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a micrococcus. Pasteur also describes a bacterium found in septic blood and fluids which he calls vibric septique. It follows that not a single bacterium is concerned in the development of septicæmia in animals, but possibly several of them. More than one variety is engaged in putrefactive processes outside of the body, and we might expect that more than one would be concerned in septic processes within the body, the same as we find more than one fungus that produces alcoholic fermentation. The production of pus is almost always associated with the growth of bacteria, but in this process the bacillus seems to have no part. The smallest of bacteria and most difficult to study, the micrococci, are the agents here. Even most acute abscesses, when opened, contain them. They are not always present in cold abscesses, but it is suggested that they may have existed and died from want of further nutrition the same as some of the alcohol ferments die when the fluid has reached a certain per cent. of alcohol, even though there be still unconverted sugar in it. Acute abscesses may be caused by the action of foreign irritants without the development of micrococci, as proved by Conheim. But Conheim claims that clinically, it is extremely rare to find suppuration that is not due to the action of these germs. No metastatic abscess exists without them, and pus freed from them by filtration or boiling, while producing by innoculation septicæmia, never produces pyæmia. (They are sometimes found in the body of apparently healthy persons)! They have a tendency to aggregate in colonies, or zoöglea, held together by a viscid secretion of their own. In this form they cause embolism of a vessel and the development of an abscess at the seat of the thrombus. As the abscess extends they invade the new tissues as the first step in the process. In osteomyelitus they have been found in the bone and marrow and blood before the suppuration has begun. In suppurative pericarditis they are found in the pus, and zoöglea of them have been shown by micro-photograph to form the nucleus and base of ulceration of that membrane.

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After summing up all we know about the action of bacteria in relation to surgery, their action in retarding cell nutrition, and in the development of suppuration, their agency in all putrefactive processes, and hence, in the production of septicæmia and pyæmia, we can but wish that we knew more, and that many doubtful points might be cleared up. Still, we have enough to impress upon us the necessity of thorough aseptic precautions in surgery. Under Lister's methods suppuration is rare, and the more fatal complications of surgery, pyæmia and septicæmia almost unknown.

If the surgeon understands the basis of asepticism, a few simple precautions only are necessary to make it effective. All instruments and sponges should be thoroughly cleansed and put in a three to five per cent. solution of carbolic acid. The surface to be operated upon should be scrubbed with soap and water, shaven and washed with the carbolic solution. The hands of surgeon and assistants should be scrubbed with a nail brush in the same solution. After the operation all bleeding should be stopped before dressing the wound, so as to leave no putrescible material to fill any unevenness in it; the cut surfaces to be thoroughly irrigated with the carbolic solution or bichlorid solution, 1-1000; thorough coaptation not only of the surface wound, but of its deepest parts, so as to leave no pockets; iodoform applied as the external dressing and all made firm by bandages. With these precautions the spray can be done away with and poisoning with carbolic acid need not be dreaded. Lawson Tait's great point is the thoroughness with which he stops all bleeding points, and sponges and rinses, and rinses and sponges until he leaves no putrescible material for germs to act on.

TUBERCULOSIS.

The theme which has excited most controversy of late in the development of the germ theory, is Koch's claim to have discovered that tuberculosis is a parasitic disease. I doubt if many physicians doing an average practice have escaped

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the conviction that it is an infectious disease. He has seen the surviving partner of the marital relation where one has died of tuberculosis also show signs of the disease within two years after, so that he has learned to watch and care for him or her and keep the general health up to the best standard until time has shown no further necessity for such care. Early in my professional life this was impressed upon me by clinical experience. The infectiousness of the disease can now no longer be doubted by any one who will consult his own experience and weigh carefully the experiments made to test the subject upon animals.

It is well known that many species of animals are fully as subject to this disease as the human race, most notably of the domesticated animals are the rabbit and the guinea-pig, while the dog and cat are free from such tendencies. These animals were, therefore, selected as experimental tests. In 1868 Villemin demonstrated that the subcutaneous introduction of tuberculous tissue from the human subject induced tuberculosis in the rabbit and guinea-pig. In the years following, his experiments were repeated by numerous observers, and invariably with like results. Not that in every case the inoculation took, but so frequently as to demonstrate the communicability of the disease. It was claimed by others that like results followed from introducing other irritating foreign matter beneath the skin or into the peritoneum of these animals. The suggestion was made by Klebs that the experiments of these objectors were made in laboratories where tuberculous animals had been kept closely confined for experiment, and if tried under circumstances to free them from this source of error, the results might be different. The suggestion was acted upon and the results proved the value of it, for not one of the animals developed tuberculosis.

Perhaps one of the most delicate tests of the inoculability of the disease was furnished by Conheim, Baumgarten, Salomensen and others, using the cornea of the rabbit as the point of infection. The irritation of the inoculation (a small

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bit of tuberculosis tissue) soon subsides, the particle to a greater or less extent, sometimes entirely, disappears by absorption, and the eye appears clear and healthy. About the 25th day in rabbits, and about the 18th in guinea-pigs, the iris suddenly becomes studded with minute gray tubercles, which grow to a certain size and then become caseous. In many cases the infection progressed to tuberculosis of lungs, lymph glands, spleen and other organs.

Rabbits were placed in two rooms, into one of which the expired air of tuberculous patients was passed for several hours daily, while in the other only air filtered through carbolized tow was admitted. In a few months the rabbits in the first room were dead of tuberculosis, while in the second there was no sign of infection.

The effect of inhalation of tuberculous sputa was tried, and proved that not only rabbits but dogs, which are not easily susceptible to tuberculous infection, developed general tuberculosis, while the inhalation of non-tubercular sputa was innocuous. These animals were fed on tuberculous tissues, and many of them became infected, the infection first showing itself by the development of tubercles in the intestinal canal and glands, and extending to general tuberculosis. The infectiousness of tubercle would therefore seem to be abundantly demonstrated by our own clinical experience, by experiments on animals through the alimentary canal and lungs, natural channels of infection, and also by inoculations through unnatural channels, the subcutaneous tissues, and above all, the transparent cornea, where pathological changes can be watched. The infectiousness of tuberculosis established, it needs still the proof that the bacillus tuberculosis of Koch is the medium of transmission.

If I read rightly the advance of positive science in pathology, the old idea held by the honored fathers in the profession, that consumption is the caseous degeneration of inflammatory products, is fully exploded. One by one the adherents to that dogma have yielded to new lights, and

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acknowledge that while we have a tubercle anatomically identical with the infectious tubercle from such caseous degeneration of simple coagulable inflammatory products, these tubercles do not give rise to tuberculosis; are not, in fact, a heterologous tissue, but a homologous degeneration of inflammatory products. True tubercle, on the contrary, it is claimed, is properly a heterologous formation, and of parasitic origin. Koch's announcement of the bacillus tuberculosis was made after two years of study and careful experiment, and seems so perfect that if we accept a parisitic origin for any infectious disease, we must allow his claims. Many of the most prominent observers in this line of investigations are yielding, one by one, to the evidence adduced, and by repeating Koch's experiments, varied to suit each investigators peculiar mode, are reaching like results and yielding to like convictions. After two years of investigation, during which he gave the world no sign, Koch gave the results of his labors. He carefully eliminated all possible sources of error. Having found that inoculation of fresh tuberculous tissue gave rise to tuberculosis, he sought for the medium of infection and discovered a bacillus. He found the bacillus in the sputa of most comsumptive patients and never in any other. He cultivated it in a medium suited to its growth through several generations, watching its growth and development under the microscope and comparing them with fresh bacilli from the consumptive patient. Having assured himself of the identity of his culture bacillus with the original, and its freedom from all animal tissue as well as other bacteria, he came to the experimentum crucis. By inoculating rabbits, guinea-pigs, and cats with these isolated bacteria, he invariably produced tuberculosis, making the medium of infection the skin, the eye, and the abdomen. In about two hundred inoculations, including some animals which resist inoculation with fresh material, he produced in all tuberculosis, accompanied with the tubercle bacillus. Thus the matter rests at present. No complete verification has yet been made by other ob-

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servers. It is perhaps as yet too early to look for them. Many are testifying to the presence of the parasite in the sputum of most tuberculous subjects. For the rest we must wait. Time will clear the question of doubt; in the meantime the known carefulness in technique and familiarity with bacterial life, and the candor and honesty which characterize Koch, may well lead us to believe that to him will belong the honor of making the discovery, and of demonstrating that this disease is parasitic, and propagated only by this special parasite.

In order to arrive at just conclusions about the present aspect of the germ theory, we must mention the various diseases in which specific germs have been reported. I shall do this rapidly.

GONORRHEA.

In this disease Neisser claimed, in 1879, to have discovered a micrococcus peculiar to it which he named the gonococcus. He claimed to have found it in gonorrheal pus from the urethra, and in the discharge of gonorrheal blenorrhagia, and never in pus from other sources. His observations have been confirmed by various observers, among whom may be mentioned Leistekow, Hirschbay, and Krause. The two latter, however, claim to have found similar organisms in purulent conjunctivitis not known to be gonorrheal. As no animal has been found subject to this disease, all experiments upon them by inoculation of course failed. Bokai found six medical students whose love of science overcame other considerations, and injected the cultivated microccoci into their urethras. Three out of the six had a genuine gonorrhea from it. We do not learn that these devotees of science were secluded from other sources of contagion, but knowing as we do that science rises above passion, and that the medical student is a model of propriety, we can give full weight to the experiment. Bockart, in 1883, performed an experiment which would seem to be conclusive. After a culture on solids by which he separated this

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micrococcus from all other bacteria and all animal tissues, he injected a small quantity into the urethra of a bed-ridden patient who was expected to die in a short time. Within three days he had gonorrhea, which continued until his death. The examination of the tissues *post mortem* revealed the micrococci between, but not in the epithetial cells of the urethra, and sometimes within the pus cells. They had migrated into the lymphatic spaces of the sub-mucus tissue, and in some of the lymph vessels their entire calibre was blocked up by them. May not the migration of these germs account for gonorrheal bubo? Several of the experimenters have failed to produce the same result, among whom is Sternberg of our army. While all agree that he is one of the most careful and honest of observers, still they suggest that instead of the gonococcus, he cultivated one very like it, the micrococcus ureæ, which converts urea into carbonate of ammonia. As this part of my subject now stands we may well wait for further light.

ERYSIPELAS.

Several reports of the discoveries of bacteria as a cause of erysipelas have appeared, but the most attention has been given to those of Koch and Fehleison. Both of these observers have found micrococci in sections taken from erysipelatous patients and properly stained. They develop in slightly curved chains and are found in a narrow zone just at the border of the erysipelatous inflammation, in the lymphatic vessels and interspaces. This infiltration extends through the skin to the subcutaneous tissue and precedes the inflammatory extension by several hours. They do their work in new fields, viz: new spreading areas of the disease, and as the orignal focus of the disease is reached they entirely disappear. This is accounted for by the theory that they exhaust the soil of their nutrition and die or migrate to new fields. Some have claimed to have seen these micrococci in the blood of erysipelatous patients. But others fail to find them. Fehleison cultivated these micrococci in a

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gelatinous solution of meat extract and peptone by successive cultures, and also on the surface of the potato, and on solidified blood serum. They grew equally well on each. By inoculating rabbits with these isolated germs he produced the disease in eight of the nine animals tried. In thirty-six to forty-eight hours the disease began with fever and a spreading erysipelas. The ear of the rabbit was the place inoculated, and in one instance by amputating the ear beyond the line of inflammation the disease was stopped. He also tried it on the human subject, using from the fourth to the seventeenth generation of culture. In from fifteen to sixty hours after the vaccination, appeared a chill, fever, and characteristic spreading erysipelas. It would seem that this must demonstrate the causal relation between this special germ and this specific disease.

RELAPSING FEVER.

In this disease a new form of bacteria which we have not before studied plays its part, viz: a spirillum, discovered by Obermeier, and called Spirochæte Obermeieri. It invariably accompanies the disease, and is found in the blood in abundance during the existence of the fever and not at all in the intermission. It appears again in the blood at each relapse, and again disappears at each remission. The theory has been propounded that the fever corresponds to the development and life of this spirillum; that it develops spores and dies, and that the remissions of fever correspond with the embryo condition of the spores, and is lighted up again as these develop into full spirilli. While this is a very pretty theory it lacks confirmation, as in artificial culture it has never been found to develop spores. The blood of a patient suffering with this disease, taken while in fever and consequently while the spirilli are found in the blood, produces the disease by injection into a healthy subject. Blood taken during the afebrile state is harmless.

TYPHOID FEVER.

Koch, Friedlander and Eberth have found a short, thick bacillus in the liver, kidneys, spleen and lymph glands,

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post mortem. Klebs claims to have found a larger bacillus in the intestines. Maragliano claims to have found both, in blood drawn from the spleen by a hypodermic syringe during life, in fifteen cases.

CROUPOUS PNEUMONIA.

Small bacteria have been found at the edge of the advancing inflammation, and also in some internal organs. But thus far its causative relation to the disease has not been demonstrated.

LEPROSY.

A bacillus peculiar to this disease has been found within the large cell which characterizes it. But no propagation of the disease has been established by it, nor can I find that any careful cultures and experiments have been tried. Small-pox, measles, scarlatina, diphtheria, and syphilis, while they have been studied, and reports of bacteria abound, are yet in the waiting stage. No complete series of experiments which have received confirmation sufficient to place them in the category of proven germ diseases, have yet been reported.

In studying this subject we must consider many things in order to arrive at just conclusions regarding the claims of the germ theory to our full credence. Observers do not always agree either in their observations or in their deductions. Comparatively few are in the field who, from the pure love of truth as demonstrated in science, are willing to do as Koch did in investigating the bacillus tuberculosis. For two years he labored and thought, thought and labored, eliminating one error after another, adding new helps to his investigations as the result of this study, and proceeding step by step until he had traversed the field, had demonstrated his facts and observations, and had formulated his deductions, without the knowledge of the outside world, not stimulated by its praise or biased by its censure, until, the last link completed, he modestly gave the profession the results of his labors.

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It has become the habit to rush into print with crude observations, and of course equally crude deductions, instead of following out the investigations to positive demonstrations. As this course of investigation has progressed, new improvements have been made in modes of observation. The flask and tube culture of bacteria were found to be imperfect, inasmuch as it was difficult, with all precautions of sterilization of implements and culture fluids used, to ensure against the entrance of other than the bacterium to be studied. At one time Pasteur's laboratory became so charged with the bacillus anthracis that he found many of his cultures infected by it in spite of his precautions. To obviate this source of error Koch instituted the solid culture. This, in short, is finding the proper pabulum of a special bacterium, spreading it upon a glass slide for the microscope, sterilizing it by heat *i. e.* (killing all bacteria that may exist in it) and planting on it with a needle the special one which he wishes to study. This is done by drawing a delicate line or scratch on the surface of the dried film and depositing upon it the bacterium. This delicate scratch with a needle charged with the tissue on which a special bacterium is growing, causes it to develop by continuity of structure along the furrow, and although the first culture may have foreign matter in it, a selected germ from this, transferred to a second culture glass, and from a second to a third, and so on, insures ultimately against any remains of animal tissue or other disturbing matter; in fact, gives the bacterium desired and nothing else. They are now ready for experimental study on animals.

Another improvement is in the staining process. These germs take up aniline dyes and retain the color while the animal tissue in which they are embedded gives it up to various solutions used for clearing them, so that in sections for the microscope, so prepared, the bacteria show out in clear outline of color. Experiment has taught that they show an election in colors, *i. e.*, one dye is not suited to all varieties of germs. Another improvement is in the mode

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of illuminating the field of the microscope by what is known as the Abbes Condenser. With these helps to investigation, we may hope for a greater amount of good work, though no improvement in technique will ever take the place of natural aptness for such work with thorough training of both eye and brain of the worker.

The greater part of this work is done in Europe, and particularly by the German and French scientists. The full text of their work is not translated into our language, and we are dependent to a great extent upon short extracts, which appear from time to time in our journals, and give but faint ideas of the amount of work done, or the value of it. The German health bureau has been particularly devoted to this subject. Koch and his confreres can afford to do good work, for holding government positions which are regarded as honorable, and which receive honor from the State, and receiving salaries sufficient, and abundant means to carry on their investigations, the government and scholars throughout the empire look to them to illustrate the science of Germany. Bad work means dishonor; slovenly work is criticised and condemned. Some of the best work has been done there and more may be looked for.

Of the French school Pasteur is the most prominent. He does much good work, but it would seem that he is less rigid in his analysis, and sometimes allows his French enthusiasm to override his judgment. Still the scientific world is greatly his debtor, and perhaps it is well that the enthusiasm of the French is balanced and held in check by the phlegmatic Teuton. Here is one great safeguard. If the German school puts forth claims, they will be thoroughly tried and criticised by the French, and if the French school publishes something new, it must pass through the crucible of the German method. Thus the peculiarities of national character are made to subserve the purposes of true science.

In all these studies one element of uncertainty exists. Experiments are necessarily made on animals. Human ife is too sacred to be made a medium of experiment.

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Fehleisen experimented with the microccus of erysipelas on the human subject, but he chose those who had some tumor on the body, and satisfied all conscientious scruples by the fact that tumors had been known to disappear under an attack of erysipelas. (They did not disappear under his experiments). But this objection loses much of its force when we consider it carefully. It is true that many animals do not afford the conditions necessary to favor the propagation of special germs. For instance, none of the brute creation are subject to gonorrhea, and the injections of the gonocochus into their urethras are innocuous. The carniverous animals are not subject to anthrax, and their fluids are not suited to the growth and development of this bacillus. But when a bacterium, found always present in any disease of the human animal, finds in one of the lower orders the conditions for its growth, and which in these animals produces a clinical history and a patholological result similar to those in man, we are justified in the conclusion that the same germ would produce the same results if inoculated in the human subjects.

To sum up the results of our studies on this subject; we have one disease, anthrax, that has passed the field for discussion—it is demonstrated. We have tuberculosis, which is certainly demonstrated if we can rely upon so careful and honest an observer as Koch, whose work heretofore has been beyond criticism. We have erysipelas, which may almost claim to be one of positive demonstration. We may put these in the category of diseases proven to be of bacterial origin.

While much has been published by various observers on typhoid fever, small-pox, scarlatina, measles, whooping-cough, cholera, and syphilis, we must wait for further confirmation before we can put them in the list of diseases demonstrated to be caused by a specific organic germ. But when we consider that in all these experiments with organic germs on lower animals, we have a clinical history similar to those familiar to us in man in all contagious diseases,

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viz: period of incubation, onset of disease, and self-limiting course, with pathological results which also correspond, may we not reasonably hope that our profession has started upon a track which will ultimately reduce it more nearly to a science instead of an art? Nay, may we not also hope that the physician of the future generation will have at his command such agents as will change the fluids of the human body so as to make them unfit for the growth and development of these germs within it, each disease having its own specific? While we may not dogmatize on this subject in its present aspect; we must wait, watch and hope, ready to receive truth, and carefully guarding against error.

In this essay I have been obliged to pass over but very lightly many points, each of which would require an hour for its full development. The effort is only a general grouping of facts to show the present aspect of the germ theory of disease. If any of you desire to look more fully into the matter, I would advise that first you study "Floating Matters in the Air," by Tyndall; then take both "Belfield on the Relation of Micro-organisms to Disease," and "Gradle on Bacteria and the Germ Theory of Disease." They are works of such interest that I am sure that you will thank me for citing you to them, and will go far to make the extracts and reviews which we see in our journals more intelligible to us. I have borrowed largely from them in preparing this essay.

Since the writing of this paper, the researches of Koch have demonstrated the cholera germ with a clearness which must place this disease in the category of those proven to be of parasitic origin.

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THE DIAGNOSIS AND TREATMENT OF CURABLE FORMS OF DEAFNESS.

BY FRANK TIPTON, M. D., OF SELMA,

Ex-Vice President and Junior Counsellor of the Medical Association of the State of Alabama.

A few years since the writer endeavored to embody in a series of articles to a medical journal, the most urgent needs of the general practitioner in the treatment of the common forms of eye and ear troubles encountered in daily practice. That those papers have in some measure accomplished their purpose, the numerous letters of thanks to the writer from all sections of our country abundantly testify. Thus encouraged, he has determined to submit for your consideration the important subject of *curable forms of deafness.*

How often is it the case that patients applying to their physician for advice concerning minor forms of deafness, are dismissed after a cursory and irrelevant examination, with some general directions about syringing the ears, etc., when the first and curable period of chronic deafness is present, and the golden moments are permitted to pass unimproved. No degree of deafness, however slight, should be lightly considered, for these early notes of warning are too often, alas! the beginning of that unhappy state of existence which falls but little short in the degree of its distress and mortification to that of the condition of total blindness itself.

Before entering upon the study of the diseases of the auditory apparatus, let us briefly consider the beautiful and mysterious physiological act by which all nature gathers

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fresh charms in its appeals to our sentiments through the ever shifting harmony of sounds. When an elastic medium as the atmosphere is disturbed by the impact of a sonorous body, spherical waves are produced, spreading in all directions, just as the circular waves or undulations seen on the placid sheet of water when disturbed by the fall of some body on its surface. Now it is the impact of these undulations upon the auditory apparatus which produces the sensation of sound or noise. The tympanic membrane or drumhead is a tense vibratory body, separating the external from the middle ear, or tympanic cavity, and in normal conditions the atmospheric pressure without is nicely balanced by the constant presence within the tympanum of a sufficient supply of air to keep up the necessary equilibrium. The air is admitted through the eustachian tubes in sufficient quantities in their normal state for the preservation of the vibratory play of the drumhead. Attached to the tympanic membrane or drumhead, and transmitting its vibrations, is the little chain of bones, resembling so much in their conformation the anvil, the hammer and the stirrup. The stirrup is the last link in this diminitive chain, and plays back and forth into a foramen which opens into the internal ear or labyrinth, where the beautiful filliments of the auditory nerve lie floating in a fluid bed, awaiting the vibrations from the minature stirrup to awaken them into the action whereby our souls are thrilled with the varied phenomena of sound. Along this delicate and intricate course, like the mysterious flashings of electricity, come all those subtle vibrations, so charming or so terrifying to the sensibilities. The sweet prattle of the infant, the delirious magnetism of music, the mad roar of the tempest, and the soft whisperings of love, must come alike to us through this mysterious channel, so frail, so delicate, yet so magnificent in its powers.

The waves sent out by sonorous bodies impinging upon the drumhead, throw this little body into vibrations, and through the medium of the bony chain, the fluid which floats

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and protects from violent shocks the delicate filliments of the auditory nerve receives and transmits these vibrations, and in the twinkling of an eye the invisible undulations become the sensible perceptions which we denominate sound.

But to proceed. The ordinary test for hearing is the ticking of a watch, which should be distinctly heard at three feet in quiet surroundings. This, however, is only approximate, yet in lieu of a better test, it will answer all practical purposes. When a patient comes for relief of deafness, we should endeavor always to ascertain the cause. Now, what are the causes of deafness?

1st. The accumulation of cerumen, or foreign matter, in the auditory canal.

2d. Simple acute, subacute and chronic middle ear catarrh, with closure of the eustachian tubes.

3d. Suppurative catarrh of the middle ear (acute and chronic).

4th. Disease of the auditory nerve.

If deafness has come on suddenly, with ringing in the ears, the chances are that it is due to an accumulation of cerumen, suddenly swollen by washing the ears, or to water admitted during a general bath, or it is due to acute or subacute middle ear catarrh, with closure of the eustachian tubes. The speculum and mirror will clear up the doubt. If no cerumen be in sight, look into the throat and the cause will generally be found in the red and inflamed pharynx. The inflammation traveling up the eustachian tubes has caused thickening of the mucous membrane lining the tubes and tympanum (acute or subacute), thus obstructing the entrance of air necessary to the preservation of the vibratory play of the tympanic membrane or drumhead. When the air supply is cut off from the tympanic cavity by the closure of the tubes conducting to this chamber, the atmospheric pressure without forces in the drumhead and it no longer vibrates to the impact of sound waves, and in this way deafness is produced. What are the reme-

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dies for these conditions, simple now, but if neglected, resulting surely in incurable structural changes of the drumhead and tympanic mucous membrane.

In those cases due to impacted cerumen, syringe the ear thoroughly with warm water until the drumhead is clearly visible through the speculum. This cleansing will be much accelerated by the use of "Buck's Curette," a simple ring of steel, with a long slender handle. This ring is passed behind the condensed wax and the mass lifted out, as with a spoon. Failing to remove all the cerumen at one sitting, fill the meatus with dry bicarbonate of soda and try again the next day. A little absorbent cotton should be put into the ear after syringing, until the ear is dry. In cases due to acute or subacute catarrh of the pharynx, eustachian tubes and middle ear, the treatment should be addressed to the imflamed pharynx, and the tubes should be kept open by daily inflations with the "Politzer's Bag," used gently during the acute stage, more vigorously afterwards. Paint over the pharynx and the pharyngeal vault with a solution of 20 gr. of nitrate of silver to the ounce of water, every second day. After freely purging with mercurials, give the patient during the acute attacks the following mixture:

R. Tincture of iron; chlorate of potash, each one dram; glycerine and water, each one ounce. Mix.—Teaspoonful every two hours.

Apply hot substances to the ear, and if there be great pain, instill Magendie's solution of morphia, 10 to 20 drops, into the ear, or use it hypodermically if this fail to relieve pain. When the application of silver does not benefit the patient at once use the following application, first suggested to me by Dr. Johnston of this city, viz:

R. Tannic acid, half dram; tincture of iron, half ounce; glycerine and water each, one ounce. Mix.—Apply locally.

This makes an ugly black compound, but it acts well in some cases. In recent cases (subacute) and in the latter stages of the acute catarrhs, the middle ear should be thoroughly inflated daily with the air bag, until all sense of

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stiffness is relieved, and the hearing becomes normal again. In more chronic cases, inflate tri-weekly, use the silver application, general alterative tonics, and expressly guard the patient against fresh seizures of cold.

These two conditions, viz: acute and subacute catarrh, from various causes, as colds, scarlet fever, diptheria, measels, &c., and impacted cerumen, will constitute the majority of the cases of recent deafness which the general practitioner will have to encounter, and a little care will serve to make the diagnosis easy. By proper treatment almost all of them can be cured.

Not so with the slowly progressive forms of deafness, resulting from structural changes in the drum membrane and the mucous membrane of the tympanum. These cases generally resist treatment, and at best are only to be arrested in their progress. Whenever in chronic deafness, on inspection with speculum and otoscope, the tympanic membrane appears white and sunken in, this condition may be suspected. These cases should be sent to the specialist, when practicable; when this is impossible, then they should be treated for the nasal catarrh, which is almost invariably the original cause of the trouble. (See writer's article on Naso-phyringeal Catarrh in the Alabama Transactions for 1883.) The middle ear should be inflated tri-weekly with the air bag, and the patient cautioned against fresh seizures of cold; he should sleep in a bedroom without fire during the night in winter, and the feet should be kept warm and dry; alterative tonics should be used and nitrate of silver applied locally.

The suppurative diseases of the ear producing deafness should be treated by remedies addressed to the cavity of the middle ear itself, after perforation takes place, which is always indicated when the discharge appears in the external canal. During acute suppurative catarrh of the ear, which differs in symptoms from the non-suppurative catarrhs only in the greater severity, the middle ear should be kept gently inflated with the "Politzer bag," and hot applications

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kept to the external ear, and Magendie's solution, ten to twenty drops, instilled into the auditory canal as needed, or used hypodermically when this fails to relieve the pain. Some cases require puncture of the drumhead, but this will be rarely necessary, and is condemned by my preceptor in aural diseases, Dr. Sexton, of New York.

When the discharge once begins, the canal should be thoroughly cleansed with absorbent cotton, and then filled with finely powdered boracic acid. This should be syringed out *only when moistened by the discharge*, and then immediately renewed. Persistence in this treatment often cures the most unpromising cases.

My preceptor, Dr. Samuel Sexton, of New York, invariably sent patients to the dentist before beginning treatment in almost all aural troubles. He lays great stress on decayed teeth as a cause of aural diseases.

The deafness due to diseases of the auditory nerves is generally incurable, and does not come within the scope of this paper. This form of deafness is distinguished by the absence of all perception of sound in the diseased ear, when the tuning fork is vibrating on the teeth. It is sometimes due to syphilis, and mercury or iodide of potassa may be tried.

In closing, the writer begs to reiterate that the most promising time for the treatment and prevention of the different forms of deafness is in the early stages, and it is no exaggeration to say that thousands of sufferers are now cut off from many of the keenest pleasures of life by the unpardonable neglect of parents, and sometimes of physicians, in failing to give due weight to the early manifestations of this unhappy condition.

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A PLEA FOR THE UNBORN CHILD; FROM ITS MEDICAL, MORAL, STATISTICAL AND LEGAL STANDPOINTS.

BY CHARLES WHELAN, M. D., OF BIRMINGHAM, ALABAMA.

The subject of the destruction of a life for the preservation of a mother, whether for the relief of the vomiting of pregnancy, or for conditions of dystocia, except through recognized conservative procedure, has been long a matter for thoughtful consideration to us. We therefore purpose in this paper, imperfect though it may be, to discuss it from its several justly contested standpoints, hoping, however, that if we should accomplish nothing else, we shall, at least, elicit from this body of learned doctors, who may differ with us in opinion, the expression of their matured judgment as to why the profession has so long tolerated and still tolerate operations, even as a last resort, in their very conception, unjustifiable in either medicine or morals.

We therefore boldly announce the tenable propositions of our paper, that any abrupt interference with gestation for the relief of the vomiting of pregnancy, or indeed any operation condemning *ipso facto* the life of the fœtus, or child, is unwarranted in practice, questionable in morals, and should be condemned as such by the entire medical profession.

We are, however, aware that we occupy a position unpopular in the minds of a large class of our medical friends, and perhaps revolting when lightly considered from the standpoint of a mere sentimentality in the interest of the mother, as the literature of this subject no doubt abounds in numerous examples of the artificial production of abor-

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tion, or even of craniotomy, almost magical in effect, sanctioned by men in the profession, eminent for their writings and distinguished alike for the purity of their morals, and the profoundness of their learning. It would, then, be presumptuous in us, even were we inclined to do so, to reflect on men of that character, venerable perhaps in years, and ripe in long experience of their profession. To all such we only appeal to "hear us for our cause," and let us discuss these questions together under the light of progressive medicine, re-arraign the subject judicially before this great tribunal of medicine—the Alabama State Medical Association—at its present session, as we incline to the opinion that they have not received that careful consideration to which they are entitled, by reason of the many difficulties involved. Besides, it is not a just observation, and worthy of remark, that many medical men are in the habit of accepting the teachings of authors, without carefully weighing their *dicta* or testing their arguments by the logic of facts.

In our effort to search out in the literature of this question, these bold innovators of a Divine Statute, we discover that the antiquity of operative interference in the vomiting of pregnancy, dates about the year 1756, when a consultation was held among the most eminent men then resident in London, to consider the moral rectitude of the operation, and the advantages likely to grow out of the practice. It is, then, highly probable, that this council is responsible for a practice, which even a century and a quarter has failed to stamp as a legitimate one, either in medicine or morals, and by its *quasi* judicial sanction, has authorized, under the guise of obstetrical operations, a method which has become respectable, even though it be at the sacrifice of hundreds of mothers, with their offspring.

But before we reach the several heads under which we propose to examine it, to-wit: 1. The true medical position of the question. 2. The statistics and evidences bearing on it from circular letters received from members of the profession throughout the State and elsewhere. 3. The

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legal grounds for resorting to it. 4. The moral right as a problem in Christian ethics we desire to transcribe the language of the several authors of repute who have written on this subject, in order to determine from these sources how the question stands on the record as a *res adjudicata*, and how far we are justified in formulating a simple series of easy obstetrical axioms to govern, as occur in the Transactions of 1883; or it may be to emblazon in letters of golden warning, the responsibilities incurred by the advocates of this practice, still in the opinion of many eminent practitioners of medicine, a doubtful expedient even as a medical method.

By reference, then, to the older writers on Obstetrics, among whom we include Velpeau, Meigs, Dewees, Ramsbotham and others of later date, we fail to discover any allusion as to the necessity of operative interference in cases of gravid nausea, but simply find it noticed under the heads of the induction of premature labor for deformed pelves, where a due regard is maintained for the life of the fœtus.

Whether we are to conclude from this omission that it was never justified as a medical method, or whether it was of so little significance as to deserve honorable mention, we will not assume to determine; but we incline to the opinion that the moral question would weigh very little in either case, with men who regard "the life of a fœtus of three, four, five, or six months, a being scarcely differing from a plant, and bound by no external tie to the outer world."

But passing by the older writers, let us come down to more modern date, and compare the testimony as recorded by Cazeaux, Leishman, Barnes, and others, whose writings we may have access to, as we accept them as the arbiters of opinion on all mere obstetrical questions.

Leishman in his work employs the following language: "Failing all other means, the question remains, whether we are warranted in imitating what nature occasionally effects by her own efforts, by inducing the premature expulsion of the fœtus. We shall not pause to consider, as some have

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done, at great length, the moral aspect of this important practical question. The idea involved is death to the fœtus, in order either to avoid risk to the mother, or to save her life, when that is in immediate and urgent danger; and no right-minded man can decide in such a case without feeling that a grave moral responsibility rests upon his decision. That there may be cases justifying it, we can not doubt; but let the young practitioner be assured that a life-long experience will scarce bring such a case under his observation, and let him beware, therefore, lest by exaggerating to himself the importance of the symptoms, he may, in his anxiety, be led into error. Numerous cases are recorded in which the operation was successfully performed with immediate relief of the symptoms. Such instances, while they afford proof of the operation, are not to be admitted as in any sense arguments in favor of the practice; moreover, the result alluded to is far from being invariable. Instances have occurred in the experience of almost every practitioner, in which the symptoms, although of great severity, spontaneously ceased and the labor reached a happy termination; and not a few are recorded, on excellent authority, which show that at the last moment and in the most desperate cases, the vomiting may cease and an equally satisfactory result ensue." In illustration he cites the case of a German woman, two months and a half pregnant, who had vomited incessantly from the commencement of her pregnancy. "For six weeks she vomited every few minutes, and the smallest spoonful of fluid set up at once the most energetic contractions of the stomach. She was excessively emaciated and feeble, her breath was very fetid. In a word, the symptoms were so grave that DuBois called in Chomel. The prognosis of both was almost hopeless, and they left the lady in the belief that she had but a few days to live. Two days after the consultation the patient was seized with severe diarrhœa, and the vomiting ceased from that moment and never returned. She could then take and retain some nourishment, and all went well. This woman, then, after

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being so near death that such men considered it a hopeless case, made a perfect recovery, and carried her child to full term.

DuBois gives, quite frankly, the details of two similar cases in which he proposed abortion. In both the women refused and went to full term. A review of facts such as these should certainly lead us to use this greatest possible caution. On page 543 he says on the same subject, "we have great difficulty in admitting this as a cause justifying abortion, and most certainly, no young practitioner should have recourse to the operation without very careful consideration, and if possible, the advice and assistance of those more experienced than himself."

Cazeaux delivers his opinion in the following decided and positive language: "When abortion is produced in cases of extreme contraction of the pelvis, there is a certainty when once accomplished, all danger which threatened the termination of the pregnancy are at an end, and that only the usual consequences of miscarriage can follow from the operation. Even supposing that the artificial means should add to the ordinary risks of spontaneous abortion, the object is nevertheless certainly attained in terminating a pregnancy whose progress so greatly endangered the mother's life. The conditions are very different in cases of spontaneous vomiting, for if all the cases on record be referred to, it will be found that the operation is far from removing the danger.

I am well aware that four or five fortunate cases have been cited from the practice of English accoucheurs, but we are not told how often it has been followed by death. We have a personal knowledge of seven cases, in two of which we declined the operation, which was afterwards performed by skillful hands. Of these, but one woman survived, all the others perished. The vomiting ceased, it is true, but death ensued from the consequences. However this may be, the fact of the patient having lived fifteen days after the first attempts to procure the abortion, makes it difficult to

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say that the operation had been postponed too long. The failure of the other operations was nevertheless accounted for in this manner. The operation was performed too late, they say, when the prolonged defective nutrition of the mother had exhausted the vital powers, and had the uterus been emptied sooner, the chances of success had certainly been greater. I believe this fully, but here it is that the most difficult question arises. When is the operation proper? If you act too soon, may it not be said, whilst instancing the cases of spontaneous cessation of vomiting, as in those which have been quoted, that you have destroyed the fœtus without advantage? If you act too late, may you not be equally approached, in view of the failure of all known operations, with an attempt which may have hastened the fatal termination? Where will the prudent physician place the limit of expectancy? If it be remembered that the vomitings may possibly produce abortion; yet are not dangerous for the mother, also that many modern writers assert that they have never known them to terminate fatally, there certainly would be small temptation to operate before all hope had been dissipated by the gravity of the symptoms. Our hopes, indeed! But does not nature sometimes mock at our expectations? Did not the patient of DuBois and Chomel seem doomed to certain death?

Hitherto, when abortion has been induced to stop the vomiting, it has not generally prolonged the life of the mother to a sensible degree, though it has invariably destroyed the fœtus, and even in the gravest cases, if the results of induced abortion be compared with those afforded by expectation, conjoined with the use of rational therapeutic measures, the advantage will be found to remain with the latter. The impossibility of deciding rationally upon the proper moment for producing abortion still continues in its fullest extent. Therefore, so long in any given case, it is impossible to say that the patient presents an assemblage of symptoms, which, if left to themselves, will in all probability prove fatal, and these symptoms existing, it is probable

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that the procuring an abortion will put an end to them, and restore the patient. I think that the operation should be rejected as irrational."

I find in the work of Dr. Meigs the following statement of a case which I give in his own language: "I attended a lady in Spruce street a few years since, who during nearly three consecutive months, appeared to vomit up nearly every particle of her ingesta. It was her opinion, coincided in by her friends and attendants, that the total amount of food and drink returned soon after they were swallowed. Nevertheless she went to term, and gave birth to a healthy daughter. I cite this as one case only out of a great number that have occurred in my practice."

Carl Braun, of Vienna, affirms that the induction of abortion for the uncontrollable vomiting of pregnancy, is not justifiable under any circumstances. Dr. H. C. Campbell, of Augusta, Georgia, declares that the practice should be banished from medicine, even as a last resort.

Barnes, in his work on obstetrical operations, indulges in the following words of warning: "That when we consider the many and weighty medical arguments, legal and moral questions involved in the arbitrary interruption of pregnancy, we shall see abundant reasons for seeking assistance in avoiding clinical error and for sharing serious professional and social responsibility." One more authority for the present: "In no case should so serious a measure be resorted to without full deliberation and consultation. In all cases it should be deferred as long as possible, and in fixing the period for its performance, regard should always be paid to the possible *viability* of the *fœtus*," is the language of Thos. Moore Madden, of Dublin.

We are, then, confident, and we intend as we advance in our argument, to adduce other authorities equally as eminent and as worthy of credit; and if necessary pile up a "Pelion on Ossa" of written testimony, against the ready and easy method of dealing with the subject, as was evidenced in the omnibus discussion at your last meeting in

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Birmingham. But we forbear further trespass on the attention of the Association in quoting opinions in substantiation, for a while, content to rest the question, in part, on the decision of these great umpires, who, even should they fail to carry conviction to the minds of a large number of our medical friends here present, we are persuaded, will hereafter cause them to approach the question less precipitately, before they finally determine to interrupt a relation between mother and child, condemned in morals by a very large and respected religious community throughout the world, and doubtful in result to mother, even when considered as a mere medical method of relief.

In view, then, of the weight of testimony of such as those whose opinion we cite above, and which no man in this assembly dare assail, in other departments of obstetric medicine, is it not remarkable that the participants in the discussion at your last meeting in Birmingham, should have published, as it were, an *ex-cathedra* opinion, authorizing every doctor in the land, on his own mere opinion, to resort to a measure which even these great names have failed to sanction; and even when they do, it is under such restrictive terms as to disquiet the nerves, if not the consciences, of the boldest advocates of the measure. Is it not a matter of just comment that but one participant in that discussion thought it his duty, in the interest of the fœtus, to question the moral rectitude of the operation, since this phase obstructs them at every approach to the consideration of the medical one?

In the discussion, then, of the etiology of the vomiting of pregnancy, so little is accurately known in its pathology, that it would serve little to our purpose to detain you with the different theories or causes suggested by different writers, as to its remote causation. It is a matter for little concern in our present investigation, whether Graily Hewett's theory of the displacement of the gravid womb, Bennett's ulcerated os, or Engleman's more appropriate phrase of "hystero-neurosis," be received in explanation of this

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often formidable and perplexing condition, as they prove nothing in the final settlement of the question in pathology, but resolve themselves merely as explanations into the phenomena of reflex action, as enunciated by Marshall Hall, in 1837, as one manifestation of nervous force.

In confirmation of this theory, both physiology and anatomy have long since proven, that certain afferent nerves preside more intimately over the centers of vomiting than others. Titilation of the soft palate, the root of the tongue or the pharynx, excite vomiting through branches of the glosso-pharyngeal, distributed to those parts. In hepatitis or the passage of a biliary calculus, vomiting is a frequent, and we may say, a constant symptom from irritation of the branches of the vagus and sympathetic. In conditions of strangulated hernia, or intussusception, in peritoneal inflammation, or in even obstinate constipation, we have familiar examples. In nephritis, or in the retention of calculi in the pelvis of the kidney, or in the passage along the ureter, reflex vomiting is often manifested through the medium of the renal nerves. In fine, irritation of the nerves of the uterus, is one of the most frequent causes of reflex vomiting during pregnancy. Thus might we cite instances *ad infinitum* of this reflex quality of the nervous apparatus, in proof of the doctrine of Marshall Hall; but we refrain from further comment, inasmuch as no physiologist disputes it. This, then, properly introduces our position, that even in extreme cases of gravid nausea, that we have simply to deal with a purely reflex phenomenon, so far as the vomiting is concerned, or the organ involved is to be considered; and that in its examination as a medical question, we are simply chargeable with its results to both mother and child as a problem in therapeutics. To state the case, then, as we apprehend it, shall we, by the induction of forced abortion, run the risk of sacrificing both mother and child for the relief merely of a symptom, as statistics prove so frequently happens, and which we hope to strengthen by our own as we advance in our paper, or shall we rather cling to the

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conservative positions of our art, and by a judicious administration of medicines, and an intelligent perception of rectal therapeutics, tide our patient over the critical period of her pregnancy; or in the event that we fail in both these positions in procuring relief, and she aborts, as is often the case, and without danger comparatively to herself, by what medical or moral right have you to constitute yourself judge, jury and executioner over this seriously controverted question?

We have shown that even in the most skillful hands, the ratio of mortality, according to Cazeaux, is about seven mothers in every eight, where this operation has been performed, and we have no doubt if the whole statistics could be truthfully gotten at, that the result would shock the sensibilities of even the professional abortionist.

But in reply to these positions, and to justify you in the right of judgment, which you claim must be your sole arbiter in the decision of all grave medical and moral questions, you meet me with the parallel cases of the surgeon or physician, who finds himself sorely perplexed in the interest of human life, in questions determining the amputation of a limb or the administration of a remedy. But let us see whether the apparent parallelism holds good, and where the lines commence to diverge, in the respective duties of the surgeon or physician on the one hand, and the obstetrician on the other, and, here again, we ask indulgence for fortifying behind the high authority of Cazeaux, who presents the case more satisfactorily than we could, and we therefore reply in his language, who says, "that whenever a surgeon has to deal with a serious traumatic lesion, he regards nothing but the interest of his patient, and after explaining the grounds of his conclusion, may, in cases of difficulty, consult his wishes, and then leave his life at his own disposal. The accoucheur has the serious interests of two beings to care for, and though the instinct of self-preservation may silence in the female the voice of maternal feeling, it is, nevertheless, his duty to protect the fœtus, with whose welfare he is equally interested.

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"In a given traumatic lesion, all experience shows that spontaneous recovery is a rare exception. On the other hand, the experience of all accoucheurs goes to prove that the spontaneous cessation of vomiting is of almost universal occurrence. Finally, when the surgeon decides upon a grave operation, he is not only convinced that he affords his patient a much greater chance than by expectancy, but is emboldened by the results which it has already afforded." That there is barely an amputation which may not be authorized by affirming dogmatically, that a spontaneous cure is impossible; that an exceptional preservation of a limb proves nothing against the propriety of an amputation in a majority of similar cases. We will not introduce the doctor, in the tragic scene, with his little more calomel or quinine, or it may be blister, for fear that we may re-call to your memory Gustave Doré's comedy of the last consultation, and his humorous lines, so faithfully portraying differences of opinion in the profession, relative to the administration of a mere medicine, where life or death seemed equally balanced. To our mind, then, this answers the objection in general terms, urged against our position as a mere question of election, and furnishes a satisfactory argument in the mere statement of the case, how different the two questions should and do present themselves as elective grounds of action.

But we trust to a stronger argument in the theological part of our paper, to show that the responsibilities differ in every conceivable respect. This, then, brings us in the examination of our question down to the management, and application of our entire medical armamentarium in relief. We have consulted our text books, and have addressed to our patient the whole list of drugs usually employed. We have stretched the os and cauterized it after the most approved methods. We have reduced the dislocated womb, and indeed have inquired into every conceivable cause for this serious frustration of nature's only method of perpetuating herself and species. We have then exhausted the

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whole materia medica, and grievously disappointed have we grown; daily, yea, hourly are our hopes waning in our confidence in mere remedies—the persistent nausea, with its attendant vomiting progresses, and our patient is dying of starvation. Baffled and discomfited at every quarter for relief, you address the disconsolate husband, and anxious friends, but that one chance only for relief is left for the mother, viz: in the production of abortion, by some of the approved methods promulgated by Barnes in his book of obstetrical operations, totally oblivious, however, of the life of the *fœtus*. We say comforting hope, indeed, for in the same breath, you skillfully hedge in behind the solemn warning to the husband and friends, that you cannot insure even the life of the mother." Reckless, then, it may be, of the life of the fœtus, you are willing, on the mere decision of poor fallible human judgment, to endanger the life of that mother, in whose interest, and for whose protection originates this paramount plea, notwithstanding your admission that many are destroyed by the consequences of your very act. What a monstrous proposition, then, in morals, that one may commit a wrong that a possible good may come of it! What an arraignment of the science of medicine, when we admit that this doubtful expedient is the only one left us in the resources of our art either to thwart the designs of starvation or to rescue both mother and child from a premature grave! But we are unwilling to consent to the truth of either of these propositions, as we are thorough converts to the doctrine of rectal feeding, now established as a fixed law in our therapeutics, as we believe that in its efficiency we have a method of relief, certainly for carrying our patient over the critical period of her pregnancy, until the question of the induction of premature labor may be properly considered, or it may be, as Dr. Campbell has so unanswerably shown, "to banish the practice from medicine even as a last resort." Neither can we admit it, as a proper or fair argument to be received against our position, or in justification of the doctrine of forced

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abortion, that in certain cases the rectum participates as cause and effect, in this serious complication, as the generally admitted theory is, that it is a hystero-neurosis, expending its force on the stomach entirely, and in this way, only, producing those serious changes in the blood and tissues observed *post mortem* by Barnes and others. We then feel authorized, in eliminating from our argument, as a pathogenetic factor, this so-called "irritable rectum," as we believe, if it exists to any degree, that it depends upon some complicating local cause, not connected with the subject of our paper and probably susceptible of explanation, under the hypothesis of meddlesome local treatment by drugs, or the want of the proper "conception" of scientific method and manner, time and quantity of rectal aliments.

The question, however, of sustaining life by nutrient enemata, and its application in the relief of the vomiting of pregnancy, is a new one; and we are not surprised, therefore, that the idea of forced abortion should have gained so strong a hold on the convictions of honorable and high minded members of the profession, especially since the life of the fœtus is relatively considered of so little value in the final decision of this question. We will not pause here to review the poverty of our literature on the subject of rectal nutrition, as a means of avoiding forced abortion, whether from the writings of Velpeau, Meigs, Cazeaux, Lieshman, Hodges, Playfair and others, as the subject has received so little consideration at their hands as an element in the treatment, that it is surprising that this valuable adjunct should have escaped the consideration of these great masters in the obstetric art. That it is capable of prolonging life indefinitely, as a means of nutrition, we are sure no one here present will deny, who is familiar with the discussion of the subject, as occurred in the New York Academy of Medicine, or who has read the instructive paper of Dr. Flint, of New York, on the subject of rectal alimentation, in the American Practitioner of 1878. In those discussions, however, it is but fair to remark, as Dr. Campbell states,

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that only Drs. Barker and Peaslee incidentally alluded to its applicability to the nausea and persistent vomiting of pregnancy. That, however, is not a matter of surprise, nor can it be maintained as an argument against the position we assign it in the therapeutics of this question, as its scope and power in those discussions were argued simply from agreed standpoints, where organic diseases immediately threatened life by starvation. It is, however, a cause for regret that our consideration of this important question did not come judicially before that learned tribunal of medicine, as we feel assured that we should have gained a verdict in settlement of this branch of our subject putting it at rest for all time to come.

We have shown in the foregoing pages of our paper, that in dealing with the question of the vomiting of pregnancy, that our chief pathological concern is in a mere symptom—a gastritis, at most threatening as it were in extreme cases, the very citadel of life, consequent upon a hitherto unexplained reflex phenomenon; but after a careful search into the remote causes of death, as shown by *post mortems*, we can discover no lesions sufficient to account for it, other than those referable to mal-nutrition and the consequent exhaustion growing out of inanition. Mark the symptomatology, "irritative fever," "hurried pulse," "fetid breath" and wandering delirium of its last stages. How more strongly could we depict gaunt hunger, than these plain simple phrases do! If, then, our premises be correct, that in this rare formidable complication we are simply concerned for our patients (both mother and child), in the matter of their nutrition, it must follow as a logical deduction, that we are not justified in resorting to induced abortion even as a medical method, unless it can be clearly demonstrated, on well authenticated statistics, certainly overbalancing those of expectancy, that rectal feeding is impracticable in a larger number of cases, and untrustworthy as a therapeutical measure. We must insist, then, that the *onus probandi* rests with the advocates of the extreme

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method of relief, and not with ourselves, because (even though we are unwilling to concede it), in a very limited number of exceptional cases rectal alimentation has disappointed their hopes.

We then declare the law of medical and rectal therapeutics in full force, so far as it affects our moral or medical responsibility to our patients, as enlightened physicians, or at least until it has been disproved as such, by the aggregated experience of a large number of respectable authorities, and published as such as a matter of statistical evidence, or else we feel authorized in waging war against abortionists, professional or legalized, and driving them from their last fortified entrenchment within the "irritable rectum." Licensed fœticide, indeed! We now, for the first time in our life, realize the keen satire of Moliere on doctors, authorizing them "to cut and slash and kill with impunity *per orbem terrarum.*"

One single well authenticated case, proving the efficacy of rectal alimentation, in rescuing mother and offspring from death, negatives the justifiability of induced abortion even in the extremest cases. How often has it been proven that consumptive patients, almost dying of exhaustion, emaciated to the last degree, survive and bring forth plump children? "It seems," says Barnes, "that the organism in utero will attract to itself all it can get, even at the sacrifice of the parent." But has it not been demonstrated, by actual proof, that the rectum, as a channel for nutrition, has been often brought in requisition, and utilized as such for months, or even years, solely in sustaining life? Did not the recent case of President Garfield, as detailed by Dr. Bliss in his pamphlet on this method, and the numerous examples cited by Dr. Flint in the discussion of this subject before the New York Academy of Medicine in its more general application, however, afford abundant evidence "that life may be sustained indefinitely, solely by the rectal introduction of aliments." We presume no one here present questions the truth of these assertions, or will deny the

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general proposition as to its applicability in all cases of inanition, whereverthe stomach, through buccal ingestion, is seriously threatened? Why, then, except from its range of applicability this method of relief, in cases of "gravid nausea," differing, as we can conceive, in no other respect from those already referred to, except in the mere differences between a symptom, originating primarily in the stomach as an organic disease, and remotely as a reflex phenomenon, consequent upon the pregnant womb. Has any proof been yet adduced to show in what these differences consist, and why the vomiting of pregnancy, and the resulting starvation to both mother and child, are not just as amenable to treatment in the one case as the other? We think not. We then ask you, as conscientious and intelligent physicians, whose mission it is to heal and not to destroy, and in the face of so dreadful a responsibility, medical, legal and moral, are you justified in accepting a few exceptional instances of irritable rectums, as reasons for fœticide, or for rejecting an accepted law in rectal therapeutics, even though we admit the exception, in extenuation of your act, or is it rather an unanswerable argument against your position of forced abortion, in view of its immense capabilities for relief, and when based on the evidence of expectancy, together with the statistics of mortality to mothers when performed?

But you say that only in extreme cases, and under such circumstances, and only as an elective procedure in the interest of the mother, as a life of paramount value, would you resort to it or justify it.

Dr. Busey, of Washington City, has so happily replied to this position in discussing craniotomy in its relations to more conservative surgery, that we esteem it a fortunate privilege to meet you with his language on this right of election: "By whom, and in what manner is this valuation between the life of an adult woman, and that of her unborn child, to be estimated? Is it a mere matter of trade and business, to be determined always in favor of one, because

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the future and possibility of the other cannot be known? Are social position, personal qualities, and domestic relations commodities of value, to be purchased at the cost of the life of the unborn? But it so happens, that one such life would rarely liquidate such indebtedness. If the right to take the life on such a pretext is indisputable, the number of subsequent pregnancies, and the breeding and killing may go on, at the pleasure of the woman, and the will of the executioner. Even the most uncompromising advocate of the murderous operation, could not view such a picture without abhorrence. The relative value of two lives cannot be the only arbiter, for every life is of equal value to every holder. If such a law or rule of conduct has any foundation at all, it is the unwritten *ipse dixit* of by-gone periods—the outgrowth and excess of a dire necessity, which science never did accept and can no longer tolerate."

Are you assured, then, that the "pulse of 120," "the extreme prostration," "the fetid breath," and the "irritable rectums" are not recriminations, and the consequences of your own neglect in failing to resort to this rational method at an earlier day, or in the omission of addressing some judicious medical remedy? We think, as symptoms on "prima facie" evidence, if our position in rectal therapeutics be correct, that culpability rests elsewhere, rather than in the failure of the resources of the medical art, in avoiding violent measures. It, then, would appear to you, since we trust so strongly to this branch of our subject in support of views before enunciated, and in furtherance of our medical argument against artificial abortion even in the extremest case, that the burden of proof rests with us now to show the capabilities of the rectum for nutrition as a physiological problem in the digestive processes. In brief, then, so far as it affects our question, physiology has long since settled the processes of digestion of nitrogenized and non-nitrogenized foods in the small intestines, and accounts for their attenuation and absorption. The offices of the bile, the pancreatic secretion and intestinal juices in their re-

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spective relation to these two grand divisions of food are satisfactorily explained. There are no important differences of opinion between these investigators on the questions of absorption or assimilation so far as these processes are explained in the smaller bowels. "All these absorbent processes undoubtedly take place chiefly in the small intestines, which, through its villi, is provided with an anatomical mechanism eminently adapted for absorption," is no mere assumption. It will not, then, be disputed that all important digestive changes are wrought in the small intestines, and that the products of digestion are there for most part absorbed. This being a tenable position, how are we to escape our apparent dilemma, in the physiology of rectal nutrition, in the face of equally supported truth "that the large intestines possess no specific digestive function?" With reference to this inquiry about articles of rectal diet, Dr. Flint says: "I cannot pass by the physiological question, how is digestion in the large intestines effected? From its failure to procure from the mucous membrane of the colon and rectum a digestive juice, and from experiments on lower animals physiologists have been led to doubt the ability of these portions of the alimentary canal to perform the function of digestion. Yet secretive glands analagous to those of Leiber-Kühn are found in considerable numbers in the large intestines, and it is not difficult to understand that they may take on a vicarious activity when the glands of the stomach and small intestines are not excited by the presence of ingesta. This supposition is not inconsistent with the absence of digestive juice in the large intestine, when digestion in the stomach and small intestines is not interrupted." Again, recognizing his difficulty to account for rectal digestion, he formulates a second proposition in this language: "Another supposition which I will venture to make is, that food introduced into the rectum excites secretion by the gastric and intestinal glands, and in the absence of ingesta in the stomach and small intestines, the fluid secreted by these glands pass into

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the large intestines in sufficient quantity to effect digestion within the latter." Leube, in the 7th volume of Ziemnsen's Encyclopædia on diseases of the stomach and intestines, denies the possibility of rectal digestion without artificial aid. It would then seem an indisputable fact that the principle of rectal alimentation, is a correct one in physiology, and presents but one difficulty only in its perfect solution to these observers, and to be found in their inability to explain how and where this wonderful adaptation of nature's means to an end is effected. In our humble opinion, and we assert it with all modesty, but with the truth of a conviction, that the true, scientific, and only common sense way of disposing of this difficult and perplexing part of our paper, is in the theory of "intestinal inhaustion," as enunciated by Dr. Henry F. Campbell, of Augusta, Ga. Through his brilliant intellect and ingenious experiments this "Gordian Knot" has been cut asunder, and in his able, lucid, and unanswerable exposition of the subject in volume 3 of Gynecological Transactions of 1879, the question of rectal alimentation in the nausea and vomiting of pregnancy has been finally settled—even as a last resort. We would that every advocate of *licensed fœticide* throughout the land were served with this valuable document. We would that every distributor of religious tracts could feel it his moral duty to place that paper in the hands of every gravid woman, as we are sure they would cry out against this semi-barbarous practice, and Rizpah-like, rise in their indignation, to defend their offspring when attacked, against these assaults of the medical profession. Hear the testimony of Dr. Campbell, as to how simply and satisfactorily he accounts for a hitherto difficult problem in the physiology of rectal feeding: "I have already defined the method by which I account for the digestion, absorption and assimilation of food when placed in the rectum. It is different from all others with which I am acquainted; that digestion in the rectum or colon is not at all contemplated; neither by the direct absorption on the part of the walls and vessels of these cavities, nor

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by means of artificial digestive principles added to the food after the manner of Leube, nor by the glands of the large intestine vicariously secreting the digestive fluids of the small intestines, nor lastly by the alimentary mass in the large intestine exciting the secretions of the stomach and small intestines, and then attracting, or in some way acquiring them, in order that rectal digestion may take place. My proposition is exactly the reverse of this last, and asserts that instead of the digestive principles descending to the food, to digest it, the food ascends to these fluids in the small intestines, and it is there digested and prepared for absorption by the proper organs in precisely the same manner as in buccal ingestion." We will not, however, delay you longer with a recital of the indubitable proofs of this theory, or weary you with quotations from his paper "from facts of observation," "experimental research," or the doctrine of "retrostalsis," as defined and sustained by him, but refer you to the paper itself and his fifteen aphorisms in satisfaction, each in itself being an "*argumentum adjudicium*," and proving beyond successful contradiction "that under careful and systematic application of rectal feeding, artificial abortion for the relief of gravid nausea can be banished from practice even as a last resort." Let his case of fifty-two days, during which time his patient was nourished solely through the rectum—and from the symptoms detailed none could be worse—vindicate completely the doctrine of non-interference, and serve as an additional warning to those who advocate it, that even after the expulsion of a dead fœtus, of three and a half months, the distressing nausea in this case continued, and the woman was "nourished solely by enemeta for fourteen days, and for a much longer period this had to be continued, as supplementary to her gradually returning power, to take and retain food by gastric injection."

The case of Dr. A. Y. P. Garnett, of Washington City, successfully treated, for five weeks, by rectal aliments alone, is another illustration of the efficacy of this method of

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treatment in its relation to "gravid nausea," and we are sure that many others could be adduced in proof, had we access to the literature on this subject.

We are, then, at a loss to account for the unfortunate experience of a brother doctor, of certainly not exceeding seventeen years in his profession, who, in reply to our circular letter, issued for information on this subject, replies: "I have produced abortion seven times in order to relieve 'gravid nausea,' and I had one death. Her death was undoubtedly due to exhaustion, and against my earnest wishes the operation was put off too long. I have faithfully tried rectal alimentation before resorting to abortion, coupled with every other means recommended to arrest the nausea. I have used principally milk and beef tea for purposes of rectal feeding." In reply we must respectfully observe that his covering an obstetrical experience of only a few years, comparatively, is a remarkable one in furnishing seven cases demanding forced abortion for the relief of "gravid nausea," when compared with the statistics as furnished by Cazeaux and others.

We do not, however, accept it as an argument justifying fœticide, or admit the practice even in the interest of the mother, for, if it serves to establish anything on the question, it proves only the freedom of danger to the mother by which the operation, as a surgical means, is sometimes attended in skilled hands. But is our brother certain that the seven cases resulting so fortunately to the mother had reached that degree of "exhaustion" when he deemed operative interference necessary; or, if left to expectancy and rational therapeutics, would not have tided over the critical period and carried her child to term? If not, he is culpable! Death, indeed, from exhaustion! We cannot reconcile this word as a consistent cause for death in gravid nausea, in its obvious acceptation and definition—"loss of strength, occasioned by great fatigue or privation of food" —in the face of the proof of rectal digestion. He distinctly states that "no hemorrhage or other disease" existed in

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his eighth and fatal case, but that she succumbed to "exhaustion." "I have faithfully tried rectal alimentation in every instance before resorting to forced abortion," our brother writes. Is he certain that he exhausted every remedy competent to allay the "irritable rectum" even (and which in his cases he does not plead), or is he sure that the very remedies employed to quiet both stomach and bowel were not excitors of emesis in his persistency to afford relief? In his method of rectal alimentation, did he remain with his patients and see that the requisite quantity and quality of alimentation was given and retained or rejected, or did he simply entrust this method to incompetent nurses, and deduce his conclusions as to the necessity for forced abortion on that kind of evidence? I gave milk and beef tea. Kinger says "beef tea," as a food, ranks low. It contains meat salts, a small quantity of albumen and a little gelatine, together with some advanced nitrogenized matters, useless in histo-genesis. But there is little in it to repair tissues, and less in it to sustain life, so far as our knowledge yet extends. We hold him and its advocates to a strict medical and moral responsibility at every step they advance on the life of the helpless fœtus, and burden them with exact knowledge for the very reason of their every act. But where shall we place the limit of this supposed necessity for induced abortion, if we concede it a position in our therapeutics under any circumstances? Is not the plea equally as strong for the pregnant woman in icterus gravidarum, in eclampsia, and, indeed, a large class of puerperal conditions threatening her life, if the dogmatic affirmance of it be accepted as the sole rule of action? Who stands ready to dispute it, if some distinguished brother in the profession, forsooth, publishes it, "*ex cathedra*," as another reason for induced abortion? Banish it, then, from the list of remedies, even as a last resort! Throttle this hydra-headed monster, "licensed fœticide," in whatever form he rears himself, and we shall be satisfied at least with that part of our mission as representatives of the Divine art, en-

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joining us to heal and not to destroy! To the "advocates of the high prerogative of destroying innocent children under the guise and cloak of medical authority," we warn you to desist for fear that you may be instrumental in taking two lives! "In the name of the decadence of the noblest of human instincts"—"maternity"—in the interest of the "deterioration of the native races," as the sequences of induced abortion often prove, we beseech you to stay judgment, at least until you can summon a jury of twelve expert inquisitors to try the innocent victim of your alleged complaint. Before, then, we leave this part of our subject for the equally important legal and moral aspects of the question, from both of which standpoints we propose to examine it, even at the risk of being prolix, we now desire to summon some expert testimony in support of our positions. Hear Dr. A. Y. P. Garnett, and others, of national reputation and long years of obstetric experience:

WASHINGTON, D. C., Jan. 31, 1884.

MY DEAR DOCTOR—Your letter of the 24th ult. has been received. I regret exceedingly that overwhelming work will not permit me to reply in a satisfactory manner to the interesting interrogatories contained in your card. During a practice of forty years I have, of course, met with many cases of "gravid nausea," varying in degree of severity of symptoms, and length of time.

Having no record of these at hand, I can only give you my impressions as to the nature and management of such conditions. In the violent and persistent cases, those which we are usually called on to deal with, the reflex irritation of the gastric mucous membrane very soon sets up a hyperæmia, which passes on to an absolute state of inflammation, accompanied by fever and some sanguineous vomiting. The case thus becomes one of true gastritis, and is to all intents independent of the gravid uterus, the reflex symptom thus having given place to a local inflammation. The obvious and rational plan of dealing with such a condition is to treat it as a gastritis. In the case referred to by my friend Dr. Campbell, the lady was sustained entirely by rectal alimentation for five weeks; she was emaciated to the last degree, but passed on to full term, and was delivered of a healthy child, which lived. I have never seen a case where I considered the induction of abortion justifiable, except I was satisfied of the death of the fœtus. By the way, does not a continuation of the nausea, after the death of the fœtus, furnish a strong argument against the supposed necessity for producing abortion? The play of uterine reflex sympathies affecting other or-

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gans ought to cease with the death of the fœtus. This is a suggestion which occurs to me this moment, and may be worthy of investigation.

Very truly and hastily, A. Y. P. GARNETT.

Hear the testimony of Dr. Paul F. Munde, of New York, in reply to my letter and card on this question:

20 WEST 45TH ST., N. Y., Feb. 13, 1884.

DEAR DOCTOR—In reply to your card of inquiry, I beg leave to say that I do not recall how many cases of "gravid nauseau" I have seen, as they are so common that I have taken no note of them. I am certain that I have never seen a case of sufficient gravity, by itself, to require the induction of premature labor or abortion, neither have I ever found it necessary to sustain a patient under such circumstances by rectal alimentation. I do not recall the case you refer to. I have seen a number of severe cases of nausea and general malaise during the early months in consultation, and in two instances did I advise, and it was ultimately found necessary, to induce abortion; but the general debility of both patients by previous rapid and severe labors, not the nausea alone, was the cause of this advice.

PAUL F. MUNDE.

Dr. A. Flint, Sr., of the same city, writes me, February 16th, to the following effect: "I have known of some instances in which rectal alimentation in pregnancy was resorted to with great advantage, but I have not practiced obstetrics for more than twenty years and have no record of them."

Dr. Wm. Goodell, of Philadelphia, in a brief letter, of February 14th, writes: "I have been so many years out of general practice that I cannot recall my cases of 'gravid nausea.' I do not recollect ever to have induced abortion. Nor have I found occasion to resort to rectal alimentation."

Dr. F. M. Peterson, of Greensboro, Ala., in a letter discussing the question in my card, at great length and with much ability, states himself in the following positive language: "I have had a large obstetric practice for at least twenty-five years, and of course must have had a large number of cases of nausea and vomiting to treat. I have never lost a mother or child from this cause, nor have I found it necessary to produce abortion in any of my cases."

Dr. Wm. O. Baldwin, of Montgomery, amongst the most experienced and one of the most distinguished members of

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the profession now living in the State, President at one time of the American Medical Association, and still our co-laborer in the field of practical medicine, writes us under date of February 29, the following letter, to which we urgently ask your serious consideration as expert testimony:

MONTGOMERY, ALABAMA, February 29, 1884.

DR. CHARLES WHELAN—*My Dear Doctor:*

Your letter of the 22d inst. reached me a day or two since. You ask my opinion on the subject of forced abortion for the relief of the vomiting of pregnancy, and I hasten to give it to you for what it is worth. I suppose I have had my share of cases in which the only trouble seemed to be the nausea and vomiting resulting from pregnancy. In a practice of over forty-six years I have not, in a single instance, resorted to the means of inducing abortion for relief. I have had cases of the character in which I had little hope of the patient's recovery, and where the friends had entirely despaired. I have been called in by the attending physician, in consultation, when I was aware that his only object in sending for me was to have me sanction the induction of abortion or premature labor, which he himself believed was the only means of saving his patient's life. I have invariably opposed such a course, and have never advised a resort to such practice with others. Though I have seen cases in which I thought death inevitable from inanition, I have never yet seen one die from such a cause, either in my own hands or in the hands of those with whom I have been in consultation. You will therefore not be surprised when I tell you that I cannot now conceive of any array of symptoms, circumstances, or conditions in such cases that would induce me to vary from the prudent conservatism which I have so long practiced for a resort to the doubtful and hazardous practice in which one life at least must be sacrificed. So strong are my convictions on the subject of inducing abortion for the relief of the suffering and exhaustion produced by vomiting of pregnancy, that I have said to some of my professional friends that I thought it would be a wise thing for the Legislature to enact a law making it murder or manslaughter for a physician to do it, except after consultation between at least three medical men of standing in the community, if the child was sacrificed, even though the mother might recover. Yours truly, W. O. BALDWIN.

HUNTSVILLE, ALABAMA, March 26, 1884.

DR. CHARLES WHELAN—*Dear Doctor:*

I have delayed answering your letter and postal in order to see the termination of a case of extreme nausea and vomiting which I have now under observation. With this case I have had seven cases in the course of my professional life, in which the question of artificial abortion was raised, in none of which was the operation performed, although life seemed to be threatened in all the cases from exhaustion, induced from inability on the part of the patients to retain food. The fœtus in the cases except one lived

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and are now well. One was delivered at seven months and died. The mothers, in all the cases, made satisfactory recovery. In all the cases the distressing symptoms terminated between the fifth and seventh month. None extended to full term. The case now under observation is doing well, now in her ninth month. Symptoms gradually subsided two or three months ago. In this case I had my friend Dr. Baldridge to see three times in consultation for the purpose of determining the question of abortion. He fully agreed with me in delaying as long as possible. In the treatment I tried everything suggested in the books. I never saw any good results from anything used, except the hypodermic use of morphia once or twice a day of one-eighth or one-sixth grains. This has done good. Rectal alimentation has seemed to me to do good. Liquid preparations of beef and chicken, with morphia or laudanum added, has been used in all these cases.

I am glad you are going to write up this subject. I do not think the older members of the Association are willing to endorse, or willing that the Association shall endorse, the views of eminent members on this subject as expressed at the last session in your city. I cannot undertake to say that artificial abortion should not, under any circumstances be induced, but I do say no case has come under my observation which would justify it, in an experience of thirty odd years.

Hoping to meet you in Selma, and with high regards,

I am very truly yours, J. J. DEMENT.

Dr. B. H. Riggs, of Selma, testifies that he has had some very severe cases of gravid nausea. He has succeeded in all of them in saving both mother and child. He has never induced abortion for gravid nausea.

Dr. S. M. Hogan, of Union Springs, Ala., answers our card, and states that in a practice of twenty-seven years he has had a few cases of gravid nausea which gave him great anxiety and trouble, but they recovered without producing abortion.

Dr. C. H. Mastin, of Mobile, writes us: "I have, in the course of my practice, seen a number of cases of obstinate nausea and vomiting of pregnancy, but have never had to resort to abortion for their relief."

We might quote many other letters received from medical men throughout the State confirming the opinion already enunciated, but in view of the seeming length of our paper, and the ground yet to be traversed, we will conclude the expert testimony with the letter of Dr. Baldridge, of Hunts-

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ville, which is so conclusive and pertinent to our paper that we quote it at length:

HUNTSVILLE, ALABAMA, January 24, 1884.

DEAR DOCTOR—Your card of inquiry is at hand. In reply suffer me to say I have seen several cases of "gravid nausea," and four or five of the number were very distressing, but in no case have I induced abortion for the relief of the distressing symptoms. I have failed to keep notes of cases, but will mention two or three from memory. Some years ago I was called to see a multipara who was pregnant about a month, and had been sick from the day of conception. From the day I first saw her until the end of full term she suffered daily. The stomach rejected, for the most part, every article of diet which was taken, so that in a few weeks it became necessary to nourish her by rectal alimentation. This was kept up until about the fifth month, when the stomach became more tolerant of food. Beef tea and broth injections, however, were continued until the close of gestation, during which time the woman lost considerable in flesh. She gave birth to a small, immature female child which, however, survived.

My next case suffered for three months, almost continuously, from the first. She took but little nourishment, either by the stomach or rectum, but at full term gave birth to a small boy child, on whom the mother now leans for support.

Last fall I saw another case in which the nervous system appeared to be desperately involved. Food nor medicine were retained; sleep could not be induced except by frequent subcutaneous injections of morphine. This woman was, for the most part, nourished by rectal injections of beef tea until about the close of the third month. She is now near full term and in good condition from her looks.

In this connection I will report one other case which came under my observation three years ago. This woman had given birth to three children, and had aborted once at the hands of her physician for relief of "gravid nausea." She became pregnant again, and at the end of the first month her sufferings began as before. She importuned me to induce abortion, which I refused to do. She was nourished with animal broths, by stomach and rectum, and passed on to term, giving birth to a large and healthy child.

From my observation, allow me to say there are but few cases in which abortion is justifiable for the relief of "gravid nausea."

Yours truly, M. C. BALDRIDGE, M. D.

We promised that the letter of Dr. M. C. Baldridge should close the case, in so far as the expert medical testimony was concerned, but we will re-open it merely for insertion of Dr. Samuel Busey's letter, of recent date, to us on this subject, and to refer you to his articles in the Medical Journal of Sciences for January, 1878 and 1879, and his address before

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the Obstetrical Society of Washington City on the collateral question of craniotomy as a justifiable operation upon the living fœtus, published in the February number of the Journal of Obstetrics. I read in this latter article the following language, which I quote below, and after reading which I addressed him a letter for information as to whether it was to be construed as applicable in cases of forced abortion for the mere relief of "gravid nausea:" "I must express my abhorence and utter detestation of the wide-spreading vice of criminal abortion. I hold with that most eminent man and pious physician, the elder Hodge, that conception brings into existence a new being and an immortal soul; that it is alike criminal in mother and in the physician to employ means to destroy that being, that sin and shame may be concealed or pride maintained. No reputable or conscientious physician will engage in or connive at the criminal production of abortion. Does the crime consist in the performance of the operation, in the effort to conceal vice, hide shame, prevent disgrace, or obviate the discomforts of maternity, or in the deliberate act of killing? If in the latter, then tell me where the obligations of professional duty cease and crime begins. To me abortion as a substitute is equally as reprehensible as craniotomy."

We then fairly conclude from this language and the doctor's letter, that he intended to include every form of fœticide as criminal, as we do not recognize, nor does such a phrase as "criminal abortion" occur in the Criminal Code of our State, but simply defines the crime "abortion" without any prefix or qualifying adjective. We then quote Dr. Busey's, letter and would ask pardon for this detention, except for the importance of his testimony, and his great ability as an able, accurate and conscientious exponent of true medical opinion:

WASHINGTON, D. C., Feb. 18, 1884.

MY DEAR DOCTOR—In answer to your inquiries, I can only refer you to the articles which I have heretofore published, the articles in the American Journal of Medical Sciences, January 1878 and 1879. I have never seen a case in which abortion was necessary. Yours truly,

SAMUEL H. BUSEY.

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It would seem, then, that the necessity for induced abortion is very infrequent, even before the method of rectal alimentation became recognized in its full scientific importance, as a thereapeutic means of averting the threatening symptoms. We then submit our case in part on the evidence of these distinguished names, summoned indiscriminately to testify at the bar of professional justice, and leave it with you to decide whether it is not highly probable, nay almost certain, notwithstanding the brilliant results to the mother so triumphantly quoted even in seven cases, that at least some of them might have been avoided, had the physicians in charge experienced more patience, adopted a more scientific method of thereapeutics, and thought more seriously of the right of the fœtus to live, powerless, it is true, to defend, but nevertheless "animatus," and protected by every law, human and divine. Does not this apparent disregard of the life of the fœtus tend to encourage artificial abortions by reason of the moral perception of the right and the easy methods for its execution here? We had hoped that our medical friends throughout the State would have promptly replied to our circular letters, issued for purposes of statistical data, as we confidently trusted to these sources for confirmation of important facts recited by us in the early part of our paper, but for some reason, we have failed to receive as large a number as we desired.

We regret that we did not obtain the full expression of the medical sentiment of our brethren throughout the State on the important question growing out of "gravid nausea," but we fairly conclude, from the data already at hand, that the testimony would have shown overwhelming proof in favor of expectancy, conjoined to a judicious system of rectal alimentation, had we been favored with the information diligently sought for by us.

From about six hundred letters mailed by us to the address of physicians in the different counties of the State, we have only received about fifty-seven replies, and after carefully summing them up, we aggregate a constant obstet-

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rical practice and experience of four hundred and forty-one years, as furnished by a majority only of the number reported, with the result that the necessity for induced abortion existed, according to the whole number of reporters, twenty-four times in this long range of experience, with six deaths to the mother, and with the further striking exhibit that, in thirty-three cases left to expectancy and scientific management, only four died.

Thus showing by this meagre statistical table, as obtained in a limited number of letters, that twenty-five per cent. of those mothers upon whom this operation had been performed perished with their offspring, whilst, on the other hand, those left as we have just observed, to rational therapeutics and not operated upon, show less than twelve and a half per cent. of recoveries with their offspring. We then properly ask the most ardent advocate of forced abortion, what now have you to say in the face of this demonstration? Will you, or can you, longer persist in recommending your conservative operation in the interest of the mother, or in charging that interference was postponed too late because she dies, aided, perhaps, by a systematic and scientific method of rectal nutrition?

As to the legal aspect of our question, we have asserted elsewhere that no such phrase as "criminal" abortion occurs in the statutes of this state, nor is it used in contradistinction to any other form of abortion—whether resorted to by honorable physician (in his opinion) to preserve life, or by the criminal, justly so styled, who plies his trade for a mere pecuniary reward.

For the purpose, then, of this paper, however much, through respect to the opinions of some of the best medical men in the State, we would wish to qualify it, if our position be correct, that abortion, however produced, (directly, of course), and for whatever purpose resorted to, must be "abortion," and therefore criminal in its nature.

We have of course no difficulty in understanding how certain actions may be criminal under certain circumstances,

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and in the absence of those conditions may be entirely innocent. Cases of this kind will readily occur to any mind.

"But," writes a distinguished lawyer of the West, in reply to questions addressed him on this very subject, "how the deliberate sacrifice of human life, without process of law or in self-defense, or when actually engaged in honorable war, can be anything less than murder, I will leave to the subtle casuists of the medical and legal fraternities to determine."

Our legislators have done their duty in the premises, and yet by a lax administration of the law, corrupt public sentiment, or the technical refinements of our courts, a conviction under the salutary provisions of the law against abortion is almost unheard of. True, they sometimes occur, but they are simply exceptions to prove the rule. One of the most dangerous and startling doctrines ever enunciated by a court has been rendered, and is gravely set forth in some of the text books on criminal law, to-wit: that abortion can only be criminal when it is procured after quickening has taken place; in other words, when the movement of the child can be felt externally, thus placing the proof of the guilt or innocence in the hands of the criminals themselves, they being the only persons who could be cognizant of that fact.

Thanks to the advanced and profound jurists who preside over our Supreme Courts, the rule referred to is not generally sustained, and when such cases reach those exalted tribunals they are decided as other cases are—simply on their merits. The fault, then, it seems to us, does not rest with the courts, and must be sought for elsewhere. Laws cannot be enforced in the absence of healthy moral public sentiment. Who are the creators of such sentiment? In this connection I must reluctantly say I believe the medical profession is largely responsible. And why? First—They are the only men who, by virtue of their profession, are qualified to perform such operations. Second—The implicit trust reposed in them by the public gives their opin-

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ions the weight of legal decisions which cannot be repealed. Third—The fearful doctrine that the life of the child may at times be lawfully sacrificed to save the life of the mother, and the appalling extremes to which such a doctrine may be carried, surely must have originated with the profession, as certainly no law, human or divine, to my knowledge, ever gave sanction to such a monstrous proposition."

We might quote more at length from this subject, but will not do so, as we wish to introduce that of one of the most distinguished lawyers of this State, to whom we addressed two interrogatories directly bearing on the question at issue. We should, however, state that it was his purpose to prepare a paper at length to the same end, but his absence from the State and the pressure of business engagements since his return, will prevent his replying to the questions propounded by us as he had proposed. He gives us the liberty to use his letter as we may desire, and this encourages us to believe, from his recognized ability as a learned lawyer and profound scholar, that the law furnishes arguments in favor of the view, that all abortions, directly induced, are criminal. We can see but one escape (and that from our standpoint inadmissible), unless in the language of the statute, "the same be necessary to save her life." Let the proof, then, be beyond doubt, with its advocates, that the necessity has arrived, and the reasonable doubt that the law accords under any other circumstances.

In this connection, it affords us very great pleasure to be able to fortify our position with the letter above alluded to, written, as we have before said, by a member of the legal profession of this State, whose utterances are worthy of the very highest consideration, and are received as such throughout the State of Alabama:

JANUARY 28th, 1884.

DR. CHARLES WHELAN—*My Dear Sir:*

Your letter of the 19th reached me just as I was leaving home, and hence the delay in replying. It will afford me much pleasure to render any aid in my power in the work in which you are engaged. But I have not seen the Transactions, and hardly know what you want. I have considered the sub-

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ject of abortion in its various aspects, and I think I understand the question; but I am unable to see how the most positive rationalist could assert the proposition "that the induction of abortion for the relief of the vomiting of pregnancy" was to be approved or tolerated. At common law a distinction was made between a woman "quick with child" and a woman merely pregnant; but that distinction has been abolished by the statute in this State. Our Code, § 4192, p. 894, declares that: "Any person who wilfully administers to any pregnant woman," to procure her miscarriage, unless the same is necessary to preserve her life, and done for that purpose, is guilty and must be punished. With this statute before him no sane physician would do anything to induce an abortion under any circumstances, unless it is necessary to preserve the life of the woman, and not then without having the opinion of other medical experts that the necessity existed. And the necessity must be clear and imperious, for if he makes a mistake and induces an abortion when the necessity does not in fact exist, but in consequence of abortion the mother dies, or the child is prematurely alive, and dies because of premature birth, he is guilty of murder at common law.

The authorities on this subject are numerous and clear: 2d Bishop's Criminal Law, § 691; 2d Archibald's Criminal Practice and Pleading, p. 221. There can be no doubt, then, in law or morals, that the fœtus, from the moment of conception, is a human being, inchoate and imperfect it is true, but still one of the family; and, if the conception is in lawful wedlock, and the father died the next day, the child when born is his heir. The disregard of the rights of the fœtus, and of unborn children, is but a remnant of that pagan barbarism which destroyed all human beings who were helpless and in the way.

The destruction of a fœtus in a pregnant woman because of its inconvenience, or the suffering it causes the mother, is not materially different from the destruction of an idiot or a very old and decrepid person, whose longer existence could only cause suffering to himself and annoyance and suffering to others.

Barbarians and civilized pagans, who are guided solely by the right of nature and by what appears to be expedient, do not hesitate to put such people to death; and they have identically the same warrant for it that your medical brethren have for destroying an inconvenient fœtus.

Mr. Dean, in his admirable work on Medical Jurisprudence, speaking on the subject of infanticide, says, page 124: "The prevalence of these ideas and practices, their universality among ancient and generally among savage and barbarous nations, the general entertainment of more and more correct ideas, as nations more civilized and of more purely and elevated moral feelings have appeared and exerted their influence in the world's history; all point to this as an excellent barometer by which the feelings of men in different nations and ages may be tested and their progress in reference to correctness of ideas and purity of feelings and principles are ascertained." This is strong language, but it is the truth. There is an impulse in the animal man, and other animals also, to destroy the helpless who are in the

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way and are troublesome, and this impulse finds full expression in the infanticide amongst savage and barbarous people; and it will find expression in any man, however scientific he may be, who considers human beings merely from the standpoint of present expediency.

A large proportion of your medical brethren in this State and elsewhere are writing themselves down on the surface of history as moral barbarians, and you will accomplish a great work if you can wake them up to a realization of what they are doing. Yours very truly,

——— ———.

We then commit to this association the opinions of these two able legal gentlemen, one residing in this State and the other in the West, in support of the view expressed, that it is an exceedingly doubtful question, in legal contemplation, whether the right to destroy a child "in utero" is to be maintained, as even a legal proposition, certainly not where the death of the mother follows. We therefore insist, whatever be the motive in view, that all abortions are criminal.

THE MORAL ARGUMENT.

Let us now examine our subject in its moral bearings, and not only as physicians and educated thinkers, but also as Christian men, consider seriously and without passion or prejudice, the grave responsibility which rests upon us, as accountable beings, for the use we make—especially in connection with the matter under discussion—of our position and influence as the trusted guides of the people in matters pertaining to their physical well-being.

By way of introduction to our discussion of the moral principles involved in the question of fœticide, we simply reiterate that portion of our general proposition which declares that "any arbitrary interference with gestation . . . or indeed any operation *ipso facto* condemning the life of the child, is questionable in morals." This statement is based on the fact that there is an absolute standard of morals to which all are bound to conform; and that, according to this standard, such destruction of the child's life, no matter for what purpose, is altogether and in all cases unlawful. To establish, therefore, the truth of our position, we must first

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prove the existence and solidity of the basis on which it rests, viz: that there is such a standard of morals. This we now proceed to do.

We all admit, without doubt, that God, the creator of man, is a perfect and allwise being, and, therefore, that He acts consistently in all cases and in all things. Now, God created man with reason and free will, and, as a consequence of these endowments, it became incumbent on the Creator, as a matter of consistency, to furnish man also with matter for the exercise of these high faculties, for the bestowal of a faculty without the means of exercising it would be a useless gift, and God, being perfect in his nature, can do nothing useless. Hence he gave himself and the whole universe to man as the objects upon which to exercise his reason, and he made and promulgated laws for the guidance and exercise of man's free will. These laws constitute the standard of morals, absolute and unchangeable, because based on the very nature and perfections of God himself and the necessary relations which exist between Him and man, his creature, and these are as immutable as God himself.

Where, then, shall we find these laws which form an absolute standard of morals? Not surely in the changing customs of this or that age or nation or community, but in the manifest revelation of God's will to man; for God alone, who created man, has the right or the power to establish a standard of morals. This revelation of God's will to man is to be found chiefly in the Holy Scriptures, or Bible, the authenticity and divine origin, and consequently the authority of which have thousands of times been established by the most careful research and keenest criticism.

We do not, however, claim the entire body of the laws, as found in the Bible or elsewhere, as the absolute standard of morals, though all these laws conform to this standard, and are either proximately or remotely, deductions from it, promulgated from time to time, as rules of action, by the inspired guides of the people. There is one special code of laws issued directly by God himself (for he wrote the laws

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contained in it with his own finger upon tablets of stone), and this is, ever has been, since its delivery to Moses on the mountain, and ever shall remain the absolute and unchangeable standard of morals. We mean the decalogue, or ten commandments, which, as we have already said, are based on the very nature and perfections of God, and the necessary relations which exist between Him and man. These commandments are universally acknowledged by all who believe in the God of the Bible as binding on all men without exception, for no man can alter or withdraw himself from the relations which exist between himself and his Creator.

Hence, there is an absolute and immutable standard of morals, and the varying customs of different ages and different places by no means justify the inference that the standard of morals is uncertain, but rather that man in his perversity, or in many cases his ignorance, departs from the standard to which, as a creature of God, he is bound to adhere.

Now, one of the commandments of God, as contained in the decalogue, or absolute standard of morals, is: "Thou shalt not kill," which, according to the interpretation of Christian theologians and philosophers, means that it is unlawful for man, on his own private authority, to destroy his own life or that of another human being, because the life, or *anima* (soul) of the human being, being a direct creation of God, does not come under the jurisdiction or dominion of man, but belongs exclusively to God, and, therefore, none but God has the right to take away that life, unless He delegate His authority for some grave and sufficient reason, as He does in the case of the public civil power, whenever the public good requires this extreme penalty to be inflicted for some enormous crime, whose tendency is to defeat the primary ends of society, for, God having created man to live in society with his fellow man, grants all the powers necessary to the preservation of society willed and established by Him. But God never delegated to even the supreme civil power the right to take away the

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life of an innocent human being, nor could He consistently do so; for the innocent one, having done no wrong against the good of society, can forfeit his life to none but God, who alone holds dominion over it.

Having established our basis, we now ask the question: Is it lawful, under any circumstances, or for any purpose however good, to employ an operation which directly tends to destroy the life of the child yet unborn? To this question we answer unhesitatingly and unqualifiedly: No, never! and we do so on the ground that the child unborn has the same right, that the mother or any other human being has, to demand, on the authority of God himself, that the command, "Thou shalt not kill," be obeyed, in its regard, by all other human beings.

I. It is now universally admitted, as it has been from the beginning maintained by all Christian doctors and philosophers, that the human fœtus, from the moment of its conception, possesses life. If living, then it already possesses a human soul—the *anima*—which is the special and direct creation of God, and which it is not lawful for any man to destroy. We say it already possesses a human soul, because the soul is the principle of life in the human being, and certainly sufficient to account for the life of the fœtus as well as for that of the fully developed man. But, if sufficient, then there is no reason to suppose that God would endow the fœtus with a special life, distinct from the soul, till a certain period of gestation, or till birth, and then, withdrawing that special life, replace it by a human soul; on the contrary, it would not be consistent with the wisdom of God to do so, because it would be a useless repetition of action where one act was sufficient. The fœtus, therefore, is a human being composed of body and soul just as other human beings are, only not yet developed; and hence, whoever destroys the life of a human fœtus destroys the life of a human being, and doing so unlawfully is guilty of murder pure and simple.

II. Now we claim that such destruction of the fœtus is

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unlawful in every case; for every individual human being, by the very ordinance of God, has a right to live so long as he has not forfeited that right by his own deliberate act. This he can do in two ways: First, by the deliberate commission of a crime for which the death penalty had already been adjudged necessary by legitimate and competent authority; in which case the public civil power would have a right to take the life of the oné so acting. Secondly, by making an unlawful or unjust attack upon the life of another, in which case the one assailed would have a right, by the law of nature, to defend himself against the unlawful aggressor, even to the taking of his life, if that should be necessary to protect his own; and here permit us to remark, by the way, that the case of self-defense is the only one in which one individual has the right to take the life of another without a judicial sentence.

Now the unborn child cannot have forfeited its right to live in either of these two ways. In the first place, it has committed no deliberate crime for which it deserves death, for, being incapable of voluntary action, it is equally incapable of crime: there can be no crime without deliberation and free will. In the second place, the unborn child is not and cannot be guilty of an unjust or unlawful assault upon the life of another; although it is sometimes urged, as an argument in justification of artificial abortion, that the child, being the aggressor (inasmuch as it puts the mother's life in danger) ought to be destroyed to save the latter. This, however, is a great fallacy which a little reflection will effectually dispose of.

We must bear in mind that, to justify direct homicide as a means of self-defense, the assault must be an unjust and direct attack upon the life of the one so defending himself, and must be such as to put his life in danger in such a way that no other means of protecting himself remains than to take the life of his assailant. Now, when has an unborn child, or fœtus, made such an attack upon the physician who deliberately takes away its life? Never! therefore the physician has no right to take that life.

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It will not do either to urge in reply that a man may defend his neighbor's life against an unjust assailant, even if he kill such assailant. He may, it is true, defend his neighbor's life in the case, and even use violence in doing so, from the effects of which violence the unjust assailant may die, but he cannot lawfully kill such assailant wilfully or intentionally; for if he does so he is guilty of murder, he being allowed to kill wilfully only to save his own individual life, not another's. So the physician, as we shall see further on, may give remedies to his patient to relieve present suffering to ward off danger to life, from the effects of which remedies the child or fœtus may die, accidentally, but he cannot without guilt, even to save his neighbor's life (the mother's in the case) give remedies which directly tend to destroy the life of the child.

If any one could have a right to destroy the child, it would be the mother herself, whose life is in danger. But has she, even in the abstract, a right to do so? No! because an attack is unjust only when it could and ought to be avoided. But the act, or rather inability to act, of the child by which the life of the mother is endangered is absolutely beyond its control, it being incapable of volition, and consequently the so-called assault or act of aggression by the child is a thing without existence—a mere subterfuge. But even if there existed a direct attack, but entirely mechanical and involuntary, it would not be an unjust assault any more than the falling of a stone, in obedience to the laws of gravitation, from the house-top upon the head of a passer-by, would be an unjust assault. Hence, this supposed assault by the child would not justify even the mother, who is supposed to be attacked, in directly taking the life of the child. Besides, if we look rightly into the case, it is the mother herself who is the cause of the whole trouble, for it is by her will or consent, and with a knowledge and acceptance of the attendant risks, that the child is in her womb, and therefore it cannot be lawful to destroy an innocent life to avoid the consequences of the deliberate act of another.

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Hence, neither the physician nor the mother has the right to destroy the life of the child on the plea of self-defense against "assault by the child;" and furthermore, that child not having forfeited its right to live, it is simply murder to take its life.

Another fallacious argument in support of the right to procure artificial abortion is based on the well known moral axiom: "Of two evils choose the less." From this it is argued that as the death of the child is a less evil than that of the mother, it is right to procure the death of the child to save the mother. Thus not only perverting a wise and useful rule, but blindly assuming that the life of the child is of less value than that of the mother. The meaning of the axiom, when properly understood, is that when a man is so situated that he is forced to do one of two acts, both of which are evil, or wrong, he should do the less evil act, thereby escaping from the necessity of doing the more evil one. Thus, if a man is so situated that he is forced either to tell a lie or deliver to certain death an innocent person whom he is conscientiously bound to protect, he should rather tell the lie, it being the less evil.

The physician, however, in the case before us is not placed in such a situation. The question for him to decide is whether he shall do a grievously evil act, viz: take the life of a human being, or abstain from acting altogether, and let nature take its course in regard to another life. He is not placed in a position, in the sense of the axiom, to choose between two evils, since there is but one evil, so far as he is concerned, which he has to decide either to do or not to do, viz: the destroying of the innocent child. The life or death of the mother has nothing to do with the case, so far as the physician is concerned, further than that he is bound to use all legitimate means to preserve her life; but surely murder is not among the legitimate remedies to be used in medicine.

But even supposing that the physician might lawfully destroy a less valuable life, if by doing so he could save a

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more valuable one, we ask how is he to decide, in our case, which is the more valuable life? To do this he should be able to penetrate the secrets of futurity, and measure accurately the amount of good which each of the beings, now awaiting his decision as to their several right to live, will actually accomplish, if allowed to live; he should be certain that he is able to discriminate between the various species of goodness and give each individual good act its true value in striking the final balance; and to possess these necessary qualifications he should be God. But the physician is not God, and therefore does not possess the necessary qualifications to decide which is the more valuable life, or which death would be the greater evil, and this being the case, his evident duty is to do what he can in a legitimate way for his patient, and leave to God, who alone possesses dominion over life and death, to decide which is the more valuable life.

We have now brought our moral argument to a close, and it only remains for us to draw the line, which we will do very briefly, between what is strictly unlawful and what may be permitted under certain circumstances. From the preceding argument on the moral principles involved in this discussion, it follows as a necessary logical conclusion that the human fœtus being a human being, though only in embryo, any operation, whether artificial abortion or anything else, which tends directly to destroy the life of that fœtus, is positively forbidden by the moral law, and the effect following from such operation is murder, and of the worst kind—being the murder of an innocent victim which no motive, either of public or private utility, can possibly justify. Hence, the deliberate and direct destruction of the life of the human fœtus can never, under any circumstances, be lawful. Beyond this the moral law does not forbid absolutely. Consequently, risks may be taken for good and sufficient reasons, but the rule of morals in such cases is, and it cannot be violated without moral guilt, that the greater the risk to the child the greater must be the reason for taking it. Applying this rule conscientiously there will be little danger of serious mistakes.

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In conclusion, we would say that the induction of premature labor after the fœtus has become viable, in cases where there would be danger to the mother if the period of gestation was extended to its full limit, is not considered by moralists as reprehensible, because the life of the child is not specially endangered, and the dangerous weakness of the mother is sufficient reason for whatever slight risk there may be, and for the interference with the usual course of nature involved in the case.

In the inception of our paper we took the position, and assumed to prove the collateral question growing out of the subject of our article, that the operation of craniotomy was quite as reprehensible as abortion, inasmuch as either operation condemned the life of the fœtus, and therefore was no more entitled to consideration as a scientific procedure than induced abortion was for the relief of gravid nausea.

The same moral and legal arguments employed by us in proof of our positions in the latter condition apply with equal force to the former, and we therefore feel under no obligation to invoke them again.

Besides, the object had in view when we were appointed to prepare a paper on this question, grew out of our objection simply to the position in which the subject of gravid nausea was left at your last session, and we therefore introduce craniotomy incidentally, as it affected the question of gravid nausea in several obvious points of view, but with no purpose to elaborate the argument to its full completion.

The investigations of Drs. Harris, Montgomery, and Busey, and the publication of their able papers on this question, are so complete a refutation of the supposed necessity for craniotomy on the living child, that those of the medical profession who are familiar with these discussions will hardly again have the temerity to attack a child "in utero" with those murderous instruments of ancient medicine—the hook and perforator.

The most ingenious argument of the most powerful mind would be powerless to elevate the operation again to the

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dignity of a conservative and humane operation in the obstetric art, even for the preservation of the mother as a last resort. Craniotomy, then, as a justifiable procedure on the living child, has been so ably and conclusively presented by Dr. Samuel Busey, in his recent article published in the American Journal of Obstetrics, that we do not hesitate to say that any physician who would in this day resort to it for dystocias of any character could be convicted of malpractice (to employ the mildest term) were a suit instituted against him; for, as in "gravid nausea" as a result of forced abortion, "no operator," in the language of Dr. Busey, "has ever yet assured the life of the mother even after the life of the fœtus has been sacrificed, and the best result that can be offered is, according to the standard of Churchhill and Smith, the saving of the lives of four mothers out of five, or, in other words, the saving of four lives out of ten 'imperiled.'"

We then offer as substitutes for craniotomy the eight, or rather one of the eight, following conservative methods of improved obstetric devices and classed as follows: 1st, the forceps; 2d, by turning; 3d, the induction of premature labor; 4th, symphysiotomy; 5th, the Cæsarian section; 6th, laparo-elytrotomy; 7th, the utero ovarian amputation; 8th, the total extirpation of the uterus.

It is unnecessary to tabulate here the range of capability for resort to one or the other of these conservative substitutes for craniotomy in deformities involving the conjugate diameters of the pelvis, as the measurements and statistics of mortality to both mother and child have been accurately ascertained and the rule of election definitely prescribed. We simply, then, present them to the attention of our brethren and request them to examine the statistics as Drs. Harris, Busey, and Montgomery have compiled them if they be in doubt as to their truth.

In concluding this branch of our paper, we quote what Dr. R. H. Harris, perhaps the most reliable statistician in this or any other country, has to say in favor of one of the most important elective ones, viz: the Cæsarian section.

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"A very early operation in the United States will save about three out of four women, and as many children; a moderately late one will lose about two out of three women, and one-half of the children (this calculation is based upon the results of cases of fifteen women who were in labor from eighteen to forty-four hours); and a very late operation, that is, from two to fifteen days or more after the commencement of labor, will lose three, four or five to one, according to circumstances. Judging from the fact that delays are unaccountably made by accoucheurs, in cases where the operation would seem to be inevitable, we must, if charitable, believe that they cannot know the value that even an hour lost may be to the woman and child. In the United States we should expect to save 60 or 70 per cent. of both."

We have now reached the termination of our paper, prepared by us with great haste after determining, as late as January last, not to do so, owing to our unfitness for the work; but on reconsideration, through a sense of duty imposed, and in recognition of the compliment conferred, we did not feel justified in persisting in our refusal. We plead this merely in apology for whatever shortcoming our paper may disclose as a scientific presentation of our question before this able and learned body. We plead it also in the absence of statistical data, which we have failed to procure from the physicians of our State, from no fault, however, of our own, and which, if obtainable, we confidently believe that our position from that source alone would be a question of almost mathematical accuracy of demonstration. But many of our hearers are doubtless of a different opinion, and it will be a source of very great edification to us to hear our several positions controverted, not by dogmatic assertion, but by strong, convincing and conclusive arguments.

It is a cause for regret to us that on this occasion of the first appearance before you, that we could not do so with an original paper—the product of our own experiences and

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observations—but from the very nature of the questions involved in "gravid nausea," and in the absence of much personal acquaintance with the subject, we were compelled, in self-defense, to "hunt up" the experience of others and quote them to best effect. We have simply done this, connecting it, without any great regard to logical order or sequence, preserving, however, we hope, the central idea of our paper as we advanced to its conclusion.

It will then prove a proud victory for us if by reason of this method of presenting this important question, we shall prove ourselves the humble instrument of causing you to change your opinion or views for the necessity ever existing for destroying one life, and it may be two, that the other may live.

It will, too, prove a proud day, in the history of the organization of the State Medical Association of Alabama, if here to-day in this hall in Selma shall ring out again the emphatic reiteration of the divine command, "Thou shalt not kill!" No, not even to preserve the life of a mother!

In conclusion, in the language of Dr. Busey, I have endeavored to consider the question in its scientific aspect, and entirely free from the influence of ecclesiastical doctrines. I fully realize the embarrassment of individual cases, when a professional brother may be dazed by the emotional appeals of false and sentimental humanity, and his judgment made to swerve from a sound discretion and logical conclusion, to the adoption of a plan of treatment which the experience of past ages has handed down to us, and vindicated by the assertion of the right to take one life rather than leave two to die. But in the interest of a broader humanity, and a far wider field of usefulness, I would follow the pathway illumined by science and supported by the results of recent progress, and offer chances to two lives rather than take one which cannot assure the safety of the other.

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HEMORRHAGIC MALARIAL FEVER.

BY JEROME COCHRAN, M. D.,

Grand Senior Counsellor M. A. S. A., Senior Censor M. A. S. A., and State Health Officer of Alabama.

In my account of the epidemic fever which prevailed in Brewton in 1883, I have stated in some detail the problem of differential diagnosis, which had to be solved there. I had for many years been familiar with yellow fever, and to me it seemed perfectly clear that the fever at Brewton was yellow fever. The physicians of Brewton had been for many years familiar with hemorrhagic malarial fever, and they asserted with persistent emphasis that the Brewton fever was hemorrhagic malarial fever. At that time I had no circumstantial and critical knowledge of hemorrhagic malarial fever, having in all my professional life seen only one case of it. I had read in a casual way the papers which had been published with regard to it in the Transactions of the State Medical Association, and had on several occasions heard it discussed during the annual sessions of said Association. But all this had given me only a vague general knowledge of the malady, and not that minute, definite and circumstantial information of the concourse and succession of symptoms which is needed for purposes of diagnosis in the presence of an emergency such as that which confronted me at Brewton.

As a consequence of this embarrassing experience, I made up my mind to make as careful a study of hemorrhagic malarial fever as I could, with the special object in view of establishing the data upon which any medical man of ordinary skill might be able with confidence and certainty to discriminate this said hemorrhagic malarial fever from spe-

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cific yellow fever. To this end accordingly, and under date of the 22d of January, 1884, I distributed amongst the physicians of Alabama one thousand copies of the following circular letter:

DEAR DCOTOR—With a view to the preparation of a paper for the approaching session of the State Medical Association, I am anxious to obtain all the information Alabama physicians are able to give me in regard to hemorrhagic malarial fever in its several varieties. If you have ever treated any cases of this disease, no matter how small the number, please furnish me as promptly as possible with a full and circumstantial account of your experience, arranged under the following heads:

THE HEMAGASTRIC OR HEMATEMESIC FORM.

(1) Number of cases; number of recoveries; number of deaths.

(2) Full clinical histories, giving the symptoms of the several stages in regular order—type of fever, whether intermittent or remittent—with range of temperature and range of pulse—the character of the hemorrhagic vomiting, and the time of its appearance after beginning of attack—character and date of appearance of the jaundice—condition of the vital organs, especially of the bowels and kidneys—duration of disease—mode of death, etc.

(3) Treatment and effect of remedies, especially with regard to the action of quinine.

(4) The natural history of the disease, especially with regard to the influence of malaria in its production—whether attacking *de novo* previously healthy persons or engrafting itself on a pre-existing malarial cachexia—seasons of the year most favorable to its prevalence, etc.

(5) The differential diagnosis between this disease and specific yellow fever. This is important. Note, therefore, as carefully as possible, the points of resemblance and the points of difference.

THE HEMATURIC FORM.

Describe the hematuric form under the same several heads as those already indicated for the hemagastric form, with only the necessary verbal changes, and remembering specially that in this form the hematuria takes the place of the hematemesis in the other form. If cases have occurred with both hematemesis and hematuria, they should be carefully reported.

I know very well that the hematuric form is much more common than the other; but I have intentionally given precedence to the hemagastric form because of the practical importance of establishing the diagnostic differences between it and yellow fever, properly so-called.

Clinical histories, with all the symptoms carefully noted at the bedside, from day to day, are of the utmost importance; but where these have not been taken or have not been preserved give a careful general description of the progress of the disease from day to day. Where *post mortem* examinations have been made send all the details. I desire here, in passing, to impress upon the physicians of the State the great importance of accurate

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clinical records, with pulse and temperature charts, examinations of urine and other excretions, and besides notes of the daily conditions of the vital functions; and that hereafter, in this disease at least, no opportunity for this sort of study shall be allowed to pass without improvement. *Post mortems* are of so much value that very earnest efforts should be made to obtain them. Blanks for clinical records will be furnished in any number desired on application to the State Health Office.

I venture to hope that the physicians of the State will respond generously to this appeal. Let no one think that his individual experience is too little or too superficial to be of value. If you have had only a single case please report that. These units, when brought together, will make a large aggregate that cannot fail to be of value. Every reporter shall have full credit for his contribution, whether it be large or small. Above all, please forward reports promptly, as the session of the Association is near at hand.

To this circular letter I received some forty-five responses from larger or smaller practical experience in the treatment of this fever. To all of these I desire to express my sincere thanks for the trouble that they have taken to oblige me, and to assist me in the solution of an important medical problem. Some of these responses are very brief, and some of them are quite elaborate. My own lack of clinical acquaintance with the disease makes it impossible for me to undertake to estimate the comparative values of the statements and opinions of these forty-five witnesses, and I therefore publish their several communications in full, so as to do full justice to all of them. As the result of my analysis of the testimony, I cannot venture to attempt to draw such a picture of the malady as will show all the minute details which characterize it under its several forms and in the several stages of its evolution, but must content myself with such a general outline as will exhibit only its larger features, and such characteristics as are indicated by the substantial agreement of many witnesses.

TABULAR STATEMENT OF REPORTED CASES.

REPORTERS.	NO. CASES.	RECOVERIES.	DEATHS.
A. W. Agnew	3	1	1
J. S. Beard	5	2	3
D. E. Cason	1	0	1
P. N. Cilley	25	17	8
W. A. Crossley	4	3	1

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REPORTERS.	NO. CASES.	RECOVERIES.	DEATHS.
R. J. Crawson	1	0	1
J. M. Donald	60	51	9
A. R. Erskine	1	0	1
A. P. Feagan	9	8	1
R. M. Fletcher	12	4	8
J. L. and J. F. Fowler	21	20	1
J. A. Groves	10	5	5
Jas. Guild, Jr	6	5	1
R. H. Hayes	2	2	0
J. M. Godfrey	10	8	2
S. M. Hogan	50	40	10
J. C. Houston	12	7	5
J. B. Harvley	32	19	3
D. S. Hopping	41	25	16
J. Huggins	17	13	4
W. H. Hunter	2	1	1
R. D. Jackson	46	38	8
C. H. Jernigan	1	1	0
W. H. Johnston	15	13	2
W. H. Jones	38	36	2
J. E. Kendrick	1	1	0
J. S. Lightfoot	9	7	2
A. C. Matheson	12	12	0
S. W. May	1	1	0
E. D. McDaniel	25	14	11
P. P. Minor	42	32	10
H. C. Moorhead	10	4	6
Mushatt & Pritchett	39	19	20
J. T. Packer	4	3	1
B. H. Riggs	15	14	1
W. C. Stewart	18	15	3
W. E. Stewart	13	13	9
Job Thigpen	16	12	4
Frank Tipton	2	3	0
P. G. Trent	2	2	9
Charles Whelan	10	4	6

This table gives us an aggregate of forty-one reporters; six hundred and forty-two cases; four hundred and eighty-four recoveries; and one hundred and fifty-eight deaths. The percentage of deaths to cases, therefore, is 24.60; or, in round numbers, one-fourth of the cases died and three-fourths of them recovered.

Five of my correspondents fail to give the number of cases

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and the number of deaths in their practice; and, therefore, their names do not appear in the foregoing table.

NATURAL HISTORY.

The natural history of hemorrhagic malarial fever, as drawn from these testimonies, may be summed up in the following brief propositions:

(1) That hemorrhagic malarial fever originates only in malarial regions, although the morbilic paroxysm may occur after the removal of the subject of it to a healthy locality.

(2) That the poison which causes hemorrhagic malarial fever is the same as that which causes ordinary intermittents and remittents. But a few of my correspondents are inclined to doubt this, and to believe that the specific etiological factor in this disease is not identical with that which produces intermittent and remittent fevers. On this point see specially the paper of Dr. Hogan, of Union Springs.

(3) That hemorrhagic malarial fever may manifest itself in three forms—intermittent, remittent, and congestive, to which may perhaps be added a fourth form, namely, the quasi-continued.

(4) That the congestive form of the malady is almost necessarily fatal under all forms of treatment; the remittent form extremely dangerous, with the deaths in excess of the recoveries; the intermittent form less dangerous than the two others just mentioned, with the recoveries in excess of the deaths; while the quasi-continued form is the result of inflammatory visceral complications.

(5) That negroes and mulattoes are comparatively exempt from the disease in any of its forms, being indeed less susceptible to this fever than to yellow fever; and the rate of mortality amongst them is very much less than the rate of mortality amongst the whites.

(6) That in the immense majority of cases it attacks persons who have a malarial cachexia, and a history of chronic

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chills. But in a small minority it attacks persons who, while they have been much exposed to malarial influences, have still remained apparently as well as usual up to the moment of the malignant outbreak.

(7) That one attack affords no guarantee of immunity against another—the same person often suffering successive attacks in successive seasons, and even in the same season.

(8) That the paroxysms usually commence with a chill, which is often of protracted duration, which occurs frequently during the afternoon or night, and which is accompanied or speedily followed by troublesome bilious vomiting, by hemorrhagic urine, and by icteroid discoloration of the eyes and skin.

(9) That the febrile reaction, as marked by the temperature and the pulse rate, is not usually of very high grade. But there seem to be exceptions to this rule in the intermittent and remittent forms, and especially in the quasi-continued form.

(10) That while the fever continues the skin is apt to be harsh and dry, although this rule is not universal, and that the occurrence of free, and even of profuse, diaphoresis is a symptom of favorable omen.

(11) That the bowels are usually constipated, the portal circulation obstructed, the liver congested and torpid, and the whole system deluged with bile; and that free bilious purging seems always to afford some measure of relief.

(12) That the bilious vomiting makes its appearance early in the attack, is attended with distressing nausea, and is usually copious and persistent, the vomited matters ranging through many shades of color—yellow, black, green, and even blue.

(13) That the hemorrhagic urine usually comes on with the initial chill, and always in an early stage of the paroxysm; is at first very profuse; diminishes and often disappears in the remissions and intermissions of the fever, and is often suppressed towards the termination of fatal cases.

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(14) That the icteroid discoloration usually comes on with the initial chill; deepens very rapidly in intensity; may grow less marked towards the end of protracted cases; and often disappears completely after death.

(15) That a comparatively small number of cases are marked by the occurrence of black vomit not distinguishable from the black vomit of yellow fever.

(16) That this black vomit, when it occurs at all, almost always occurs at the beginning of the attack, and is always accompanied by hæmaturia, the hæmaturia showing itself first.

(17) That the more obvious *post mortem* appearances in hemorrhagic malarial fever are substantially the same as are found in other malarial diseases, namely: Liver enlarged and congested, and of dark bronze or slate color; bile abundant in gall bladder and alimentary canal; spleen enlarged and congested.

HÆMATEMESIC CASES.

It will be remembered that in my circular letter I called special attention to cases of complicated hæmatemesis, or black vomit, and this for the reason that for the purpose I had in view, it was on black vomit cases alone that the whole question hinged. With all the trouble I took to secure full accounts of these cases, out of the total of 599 cases, only fourteen exhibit the hæmatemesic form, and even of these few the details are very imperfectly given. These fourteen cases are as follows:

(1) Dr. Agnew. Had two chills of the ordinary quotidian type; then a third, which was followed by hæmaturia and hæmatemesis. The vomit was dark and thin, mixed with bile, did not coagulate, was not like coffee grounds.

(2) Dr. Beard. White man; hæmaturia during first three days, then suppression of urine, with black vomit a few hours before death on the fourth day. Nothing said of resemblance to coffee grounds.

(3) Dr. Crossley. White man; very malignant case;

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hæmaturia; on second day skin grew very dark and mottled, urine turned black as ink, and there was black vomit. Nothing said of resemblance to coffee grounds. Died.

(4) Dr. Donald. White man; very malignant case; soon after attack began had black discharges from stomach, bowels, and kidneys, all alike, all black, and all like coffee grounds. Died.

(5) Dr. Fletcher. Negro woman; was treated three days for pneumonia, and then threw up black vomit; a handkerchief dipped in the vomit and dried was colored red. No hæmaturia; no coffee grounds.

(6) Dr. Groves. White man; threw up black vomit, like coffee grounds, in the worst stage. Recovered.

(7) Dr. Harvley. White man; vomited bile and blood, both abundantly, and both alternately and together; sometimes like black vomit. Died.

(8) Dr. Jernigan. White woman; had hæmaturia; hemorrhagic vomiting on the second day, profuse, like coffee grounds. Recovered.

(9) Dr. Lightfoot. White woman; hæmaturia; profuse vomiting, passing from dark green to dark red, exactly like the urine, and then to a yellow bilious appearance. Nothing said of resemblance to coffee grounds. Recovered.

(10) Dr. Lightfoot. White woman; great nausea; vomit and urine the color of cherry brandy on the first day; on second day vomit dark yellow; nothing said of resemblance to coffee grounds. Recovered.

(11) Dr. Packer. White woman; hæmaturia and black vomit occurring together; sick five days; nothing said of resemblance to coffee grounds; vomit not carefully examined, but supposed to be blood and bile mixed. Recovered.

(12) Dr. Packer. White man; hæmaturia and black vomit; nothing said of resemblance to coffee grounds; vomit not carefully examined, but supposed to be bile and blood mixed. Recovered.

(13) Dr. Packer. White man; hæmaturia and black vomit; nothing said about resemblance to coffee grounds;

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vomit carefully examined, but supposed to be bile and blood mixed. Died.

(14) Dr. Packer. Negro man; hæmaturia and black vomit; nothing said of resemblance to coffee grounds; vomit not carefully examined, but supposed to be bile and blood mixed. Recovered.

While all of these cases doubtless had vomit that was black in color, it is clear that the majority of them did not have the sort of black vomit that is common in yellow fever, the vomit which is likened to coffee grounds, and in which there is no bile.

It is a curious fact, too, that those of my correspondents who have practiced in the most intensely malarial sections of the State, and who have seen the largest number of cases and the most malignant types have not seen the hæmatemesic form at all; and some of them distinctly take the position that the so-called black vomit of hemorrhagic malarial fever is altered bile, and not, like the black vomit of yellow fever, altered blood.

I am, however, inclined to believe that we may sometimes have in hemorrhagic malarial fever gastric hemorrhages; and these hemorrhages mixed with the gastric acids would furnish a black hemorrhagic vomit, and if this was ejected unmixed with bile, we might have a black vomit very much like that of yellow fever. Bile is very abundant in this form of malarial fever, and bilious vomiting an almost constant symptom. So that the most probable presumption is that in the vomit of this fever bile may always, or almost always be found. Still there may, by possibility, be a few cases in which, at some stage of their progress, we may have black vomit containing no bile.

In the paper of Dr. J. B. Harvley, of Sumter county, it will be seen that he does not agree with the statement made by the great body of my correspondents to the effect that when black vomit does appear in any case, it always does so in the beginning of it, and almost concurrently with the appearance of the hæmaturia. Per contra, Dr. Harvley

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teaches that the hæmaturia marks the beginning of all the cases; and that hæmatemesis appears later in the disease, and is very common towards the termination of fatal cases.

PROBLEMS IN HEMORRHAGIC MALARIAL FEVER.

(1) To determine by chemical and microscopical examination whether the so-called black vomit of hemorrhagic malarial fever is a true hæmatemesis; or whether it is altered bile instead of altered blood.

(2) To determine the true therapeutic value of quinine in hemorrhagic malarial fever; that is to say, whether it may be beneficially used in any of the several stages of the malady; and if so, under what limitations as to doses and times and circumstances of administration.

(3) To determine whether hemorrhagic malarial fever is caused by the same morbid poison that gives rise to our ordinary intermittents and remittents; or whether it is produced by a poison *sui generis*, allied perhaps to the ordinary malarial poison, but not specifically the same.

(4) To determine whether the hemorrhagic malarial fever of Alabama is, or is not, identical with the melanuric fever of Béranger-Ferand, and other French writers.

NOTES ON TREATMENT.

Under this head I propose simply to offer a few suggestions as to some of the more obvious indications of treatment based on the pathological characters of the disease, and upon the experience of my correspondents.

(1) There is virtually unanimity of opinion as to the superabundance of bile, the congestion of the liver, the engorgement of the portal circle, and the constipation of the bowels; and there is also virtual unanimity of opinion as to the beneficial influence of purgatives, especially of mercurial purgatives. The methods of administration vary. Some give small doses of calomel, or of calomel in some of the usual combinations of it with other drugs, every few hours, until the bowels are freely moved and the portal and

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hepatic congestion relieved. Others give larger doses at less frequent intervals; and a few advocate the administration of enormous doses, thirty, forty, and even seventy grains. For myself I should prefer moderate and repeated doses, until the accomplishment of the end aimed at.

(2) The disease seems to be always attended by very distressing nausea and copious, frequent, and protracted bilous vomiting. It is of course impossible to arrest nausea and emesis as long as there is bile in the stomach. My correspondents say very little about the management of these symptoms, except as to what is indirectly accomplished through the influence of purgation. The indication, however, is very clear, the stomach ought to be emptied of all the bile that finds its way into it through the duodenum. It is hardly necessary to administer emetic medicines; but copious draughts of warm water and of warm teas would probably be found to be useful.

(3) A dry, harsh skin is another common symptom, mentioned again and again by my correspondents; and in such cases sweating is always mentioned as giving more or less relief. This may be induced by the external application of heat by any of the usual methods; and will be favored by the ingestion of hot drinks as just mentioned in connection with another indication. Very little mention is made as to the use of diaphoretic drugs. One very remarkable case is related where the patient seems to have been snatched from the very mouth of the grave by the hypodermic exhibition of two doses of jaborandi.

(4) It does not seem to be settled whether or not it is desirable to address remedies directly to the kidneys; but all attempts to check the hæmaturia by the agency of astringents and styptics have proven certainly unavailing, and perhaps mischievous.

(5) As this disease has been almost universally regarded as of malarial origin, it was very natural that our physicians should have felt that quinine was the very sheet anchor in the treatment of this as of other malarial mala-

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dies; and for a long time, and even now, the general rule was to give quinine in liberal and frequent doses. It was, however, very soon observed that quinine exercised far less control over this disease than over our ordinary intermittent and remittent fevers. It was also observed that it often increased the flow of bloody urine; and even reëstablished it again after it had ceased. Strangest of all, it was observed that in many cases the chills came on while the patients were thoroughly under the influence of quinine. The result of all this has been that the confidence of the profession of the State in the beneficent power of quinine in this fever has been very much weakened; and that many practitioners have ceased to use it at all, unless, perhaps, as a tonic in convalescence. Efforts have been made to show the inadvisability of the quinine treatment by appeals to statistical tables comparing deaths and recoveries with and without quinine. I do not regard these tables as at all conclusive, because the number of cases placed in comparison are too small, and for other reasons. I myself have not been able to construct such a table out of the cases reported to me, because I am often unable to tell from my reports whether certain cases were treated with quinine or not. In the meantime it is certain that a large majority of these cases—more than three-fourths of the whole number—were treated with quinine. The broad fact, however, still remains that in the treatment of this most dangerous of malarial maladies quinine, the great anti-malarial remedy, has lost ground, and is still losing ground in the confidence of the profession. Those who still believe in the efficacy of quinine in the treatment of this malady ascribe the waning faith of their doubting confreres to improper methods of administration. It should not be given, they say, until the system has been prepared for its reception—that is to say, until the superabundant bile has been purged away, and the cutaneous functions reëstablished. To me this argument seems to be entitled to respectful consideration.

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APPENDIX OF COMMUNICATIONS.

DR. A. W. AGNEW, FAYETTE COURT HOUSE, FAYETTE COUNTY.

With regard to my experience in hemorrhagic malarial fever, it has been very limited, having only treated two cases of the disease; indeed, I have only treated one case, as you will see that one of the cases I failed to diagnose, mistaking it in the night for a case of simple intermittent fever, which developed into hemorrhagic malarial fever. These two cases are of considerable importance. They were evidently imported cases, the *sedibus morborum* having been contracted in a different locality. I have practiced medicine in Pickens county and Lamar county, where these two cases occurred, with four years exception, from March, 1844, to April, 1883, and I know there has never a case, with the exception of these cases, occurred within a distance less than ten miles of the locality where these cases occurred. I regard the two cases as well marked hemorrhagic malarial fever. I can only report them from memory, having made no record of them.

The first case occurred in Pickens county, upon McBee's creek, fourteen miles east of Columbus, Miss. J. Henry, of Leon county, Texas; age 27; left said county and State September 15th, 1868; arrived in Pickens county the 21st. This disease was prevalent in Texas, where he came from. Symptoms September 24th—Was attacked at 8 o'clock a. m. with a chill, followed by fever. 25th, repetition of chill and fever. He took 20 grains of calomel upon the morning of the 25th. It produced copious watery evacuations from the bowels. I saw him for the first time upon the 26th, at 11 o'clock a. m.; found him suffering with nausea and vomiting; fluids ejected containing blood, constituting a complete case of hæmatemesis; urine tinged with blood; skin of a yellow, lemon hue. Applied mustard sinapism to epigastrium and lumbar region. Intermission. 11 o'clock p. m., gave him sulphate of quinia, 20 grains; sulphate of morphia, half grain; repeated same dose of quinine at 3 o'clock a. m. 27th, slight chill at 8 o'clock a. m., followed by high fever; urine scanty, but highly colored with blood; no vomiting of blood. 3 o'clock p. m., gave 23 grains of quinine, with half grain sulphate of morphia. Repeated quinine, in ten grain doses, every six hours for the next three days. 28th. Free from fever. Gave pulverized rhubarb, 20 grains, with two grains of calomel. 29th. Rhubarb and calomel acted upon the bowels, producing consistent bilious evacuations. 30th. Still continued to improve. Dismissed the case.

SECOND CASE—M. Hodge, aged 27; lived 20 miles east of Columbus, Miss., one mile north of Luxapalila, in Lamar county. I was called in early in the night, about the 13th of October, 1868. His case was reported to me as a simple case of intermittent fever. I hurriedly prescribed the usual treatment and left for home, living some ten miles from there. I heard nothing more of this case for six or seven days. Passing by the house about that number of days after, I inquired of the lady, with whom he had been board-

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ing, how Hodge was. She replied that he was dead, and that his corpse was in the house. Being surprised at his death, I asked permission to inspect his cadaver. Upon inspection I found his skin of a deep yellow bronze color. I inquired if there had been any bloody urine discharge. Being no male there, I failed to get any satisfactory answer. Upon examining the sheets he lay upon I found them deeply colored with bloody urine, which I learned afterwards he had been discharging for three days before his death. To my mind it is perfectly clear this was a case of hemorrhagic malarial fever, with hæmaturia. With the exception of this case, there has certainly no case of the kind occurred within ten miles of the place he died at. He had spent about two months in Lowndes county, Miss., where the disease was of common occurrence, previous to this attack.

In a subsequent communication Dr. Agnew furnishes the following additional notes of the first case:

The patient was attacked with intermittent fever upon the 24th of September, 1868. 25th. Chill and fever repeated; stomach irritable; skin assumed a yellow, icteric hue, with bilious vomiting. 26th. Chill and fever returned; skin of a deeper yellow hue; stomach irritable, with frequent vomiting; fluids ejected containing dark blood; it did not coagulate; looked like mucous blood; there was no coffee ground appearance it it; it was mixed with bile. The vomiting of blood occurred upon the third day of the attack; bloody urine same day. 27th. Repetition of chill and fever; bloody urine, but no blood vomited, nor bile. 28th. No fever; patient able to be up in about a week. The attack lasted only four days. Bilious vomiting preceded the hæmatemesis two days. Bloody vomiting and hæmaturia occurred simultaneously upon the third day; hæmaturia upon the fourth day, but no hæmatemesis.

In answer to your interrogatories:

1. Did the blood coagulate? It did not.
2. Was it bright or dark? It was dark and thin, mixed with bile.
3. Was there any coffee ground appearance about it? There was not.
4. What sort of vomit preceded it? Bilious.
5. Which came first? Both simultaneously, upon the third day.
6. When did the bloody vomit first manifest itself? Upon the third day.

I have answered your letter the best I can. As to the coffee ground appearance, there may be some doubt about it. The blood was so mixed with bile that it was difficult to decide. I am certain it would not coagulate. It was retained in a vessel for several hours.

DR. J. S. BEARD, TROY, PIKE COUNTY.

In compliance with your circular letter of Jan. 22d, in regard to hemorrhagic malarial fever, I herewith send you a brief outline of the cases coming under my observation, as near as I can from memory. The reports, therefore, will be, in a great many respects, imperfect, they having occurred six or eight years ago while practicing on the Chattahoochee river, in Henry

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county, Alabama, and Jackson county, Florida. This disease is more or less prevalent there every fall, and has been ever since 1865. Before that time there had not been a single case. They all are of hæmaturic form. Could not use blanks, as I had no record of temperature, no test of urine, no rate of pulse to take my observations.

First Case.—Male, single, age 35 years; was taken in October. Previous history—two years previous to present attack was takenwith malarial hæmaturia; after protracted illness of three or four weeks recovered sufficiently to resume business. For six or eight months previous to present illness had suffered from repeated attacks of chills and fevers, producing anemic condition, with enlargement of liver and spleen. Was taken on Friday with chill, followed by copious discharge of bloody urine, with high fever, nausea and vomiting, yellow discoloration of skin. Bloody urine continued until Monday morning, after which time there was complete suppression of urine, up to time of death. After suppression of urine there was profound coma; bowels constipated throughout illness, notwithstanding frequent attempts to move them by purgatives and enematas; fever continued high, with nausea and vomiting until time of death—black vomit a few hours before time of death, Tuesday morning, having been sick four days and nights; died with coma.

Treatment consisted, after I saw the case, with large dose of calomel, and quinine every two or three hours per orum, with arterial sedatives, veratrum and aconite—buchu, nitre and turpentine as diruetic and styptic. Used blister over stomach, the discharge from the blister being yellow and staining bed clothing.

Second Case.—Young lady, aged fifteen years, in September, robust and healthy, with exception of chills, which had troubled her through summer occasionally. Had chill in the morning, with bloody urine, high fever, jaundice, nausea and vomiting. Urine continued bloody for two or three days, gradually clearing up with slight suppression about the third day; about the sixth day it became normal in quality and quantity. Fever also gradually subsided, with gradual abatement of all other symptoms, and in ten days she was convalescing.

Treatment.—Calomel and bicarb. soda as purgative; quinine every three or four hours; aconite and veratrum to control the fever; diet of milk, egg-nog, milk-punch, beef tea, &c.

Third Case.—This case occurred in September in the person of a negro—age, eighteen years. Had been having chills all summer. Was taken with chill, followed quickly by a profuse discharge of bloody urine, high fever, nausea, vomiting, and wild delirium. Saw him twelve hours after chill; found him in a comatose condition; could not force anything into the stomach; in pouring medicine into his mouth he would spit it out; bowels constipated; conjunctiva yellow.

Treatment consisted of enema to move bowels; inunctions of quinine rubbed over the body, repeated every hour; cold applications to head. The patient continued to grow worse until about fifteen hours after the

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chill, when he died in a profound coma. No action from kidneys a few hours after chill—none from bowels at all.

FOURTH CASE.—Patient male, age twelve years—was taken in August. Previous history—two years before present attack had an attack of malarial hæmaturia. During summer, before present illness, had frequent attacks of chills and fevers, with enlarged liver and spleen. Was taken with chill, followed by high fever, thirst, hot, dry skin, bloody urine, skin highly jaundiced, orange colored. Urine remained bloody for three or four days, followed by suppression for twelve hours, after which it began to clear up, and about the seventh day became natural in quantity and quality. During the stage when the urine was suppressed there was considerable coma—when flow of urine was re-established the comatose condition disappeared promptly. Bowels were constipated, and tongue heavily coated with dark brown coating. Fever continued high for seven or eight days, when it gradually subsided, with morning depression and evening exascerbation. About the twelfth day the fever disappeared entirely, after which time the patient began convalescing—resulted in slow recovery.

Treatment consisted of purgative of bicarb. soda and calomel; quinine per stomach every three or four hours; aconite and veratrum to control fever; cold application to head, sponging body with cold water. Diet of milk, egg-nog, beef tea and milk-punch.

FIFTH CASE.—Patient white, male, aged eighteen years. Was taken in September. Had a previous attack twelve months before; frequent attacks of chills and fevers during the summer; spleen and liver very much enlarged; tenderness of liver and spleen. Was taken with chill, followed by high fever, nausea and vomiting, bloody urine, &c.; skin became jaundiced within a few hours after the chill; fever continued high, with hot, dry skin; bowels constipated; tongue heavily coated with dark brown coat. Urine continued bloody for three or four days, when it became scant, amounting almost to complete suppression; this condition continued for twenty-four hours, when it gradually assumed a normal condition both as to quantity and quality. Fever continued high, evening exascerbations for seven or eight days. With the clearing up of urine there was a gradual improvement in all the symptoms, with gradual decline of fever until the tenth day, when the temperature was normal, bowels acting freely, skin clearing up, nausea and vomiting relieved—thought him convalescing. On the night of the eleventh day, after first chill, the patient got up in the night, went out into the hall after water, came back and laid down on the floor and remained there asleep until morning. When he was discovered was very cold, had chill, followed by high fever and return of all previous symptoms, with increased tenderness over stomach, excessive nausea and vomiting, stomach swollen and tympanitic; could not retain anything at all on stomach; gradually grew worse, with aggravation of all the symptoms—died about the fifth day after relapse—died of gastritis.

Treatment as in previous cases—gave calomel and bicarb. soda as purgative; aconite and veratrum to control fever. Gave hypodermic injections

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of quinine dissolved in tartaric acid; used quinine also endermically; gave hypodermic injections of quinine every three hours, about ten grains at a dose. There was a decided periodic tendency throughout the whole course of the disease.

CONCLUSIONS AS TO TREATMENT.—I think you should get free action from bowels as early as possible. For this purpose I prefer calomel and bicarb. soda. I afterwards rely on quinine to prevent return of chill and counteract malarial disease. Quinine should be administered only by hypodermic method and endermically by inunctions. Used in this way we get all the advantages of the drug without the disadvantages. If used in this way I think it will be found of incalculable benefit in the treatment of the disease. Given by stomach I think it not only does no good, but does great harm by increasing the irritation already present in the stomach and bowels, bringing on the hæmaturia; and I have known of several instances where a full dose of quinine per stomach has produced bloody urine within five hours after taking it. How or why it does this I am unable to say.

I think the disease of decided malarial origin. Strange to say, it was not known on the Chattahoochee river, where the cases reported occurred, until 1865, since which time it has been present every summer and fall.

In every case coming under my observation I have found the attack preceded by a history of chronic chills and fevers, patient emaciated, anemic, &c., with enlarged liver and spleen. The bowels are usually constipated, from want of bile, natural purgative, in alimentary canal. The bile duct having assumed the same condition as the stomach and bowels, a congested condition of the mucous membrane, swollen, thereby occluding the duct and preventing the passage of bile from the duct into the intestine; the bile is thereby taken up by the blood and carried into the general circulation, producing the characteristic discoloring of the skin. The seasons in which the disease is most prevalent are the latter part of summer and first of the fall, when there are more chills and bilious fevers.

DIFFERENTIAL DIAGNOSIS.

Malarial hematuria.	Yellow fever.
1st. Attacks only those who have been in some malarial region for a long time, having been emaciated by frequent attacks of chills and fevers, producinng enlarged liver and spleen.	1st. Attacks most commonly strangers. Healthy persons are as subject as those who are anemic. Those who have been in infected districts for a long time are not as apt to be attacked as new comers.
2d. Having once had an attack renders a person more liable to a subsequent one, and if the party remains in the same locality is almost certain to have a second or third attack.	2d. One attack generally gives an immunity from a subsequent one, if the party remains in the same locality.
3d. Malarial hematuria is not infectious or contagious.	3d. Yellow fever is not infectious, but slightly contagious.

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4th. Malarial hæmaturia usually occurs in localities where there are causes for malaria, without reference to distance from sea or large rivers. Often develops many miles from river or sea	4th. Yellow fever rarely prevails many miles from the sea, or from some large river.
5th. Malarial hæmaturia frequently develops in mid winter, after cold weather has set in.	5th. Yellow fever never develops after a heavy frost.

DR. D. E. CASON, ASHVILLE, ST. CLAIR COUNTY.

In reply to your circular letter of the 22d inst., in regard to hemorrhagic malarial fever, I have to say: I never saw but one case, which occurred about twelve years ago. I have no notes of the case, but remember the type of fever was remittent; the bowels were constipated. I thought it was a case of ordinary remittent fever, and administered about 18 grains of quinine during the remission, without any perceptible effect. This case occurred on the 15th of November, and death terminated it on the 18th of November. It was of hæmaturic form. Jaundice appeared on the third day, ten or twelve hours before death; the hemorrhage appeared only four or five hours before the scene closed.

I only give this vague report of my only case of hemorrhagic malarial fever to respond to your letter, and to let you know that St. Clair county and her M. D's. are almost strangers to the disease in question.

DR. P. N. CILLEY, LOWNDESBORO, LOWNDES COUNTY.

My first case of hemorrhagic malarial fever occurred in October, 1853, dying on the ninth day. My second in November, 1855, dying on the sixth day. I have not treated the hæmatemesic form. I cannot furnish you statistics, as no clinical records were preserved. Results in my treatment were not satisfactory. Treatment has been varied, utilizing every plan that recommended itself to my judgment. Most of my cases have occurred in November, December and January; occasionally they are seen earlier or later. They have generally occurred where there was malarial cachexia, always where there was evidence of thorough miasmatic poisoning. No case ever had its origin on Lowndesboro ridge, except where some fish-ponds were made near the residences. The penalty was continued chills and several deaths from this disease. The ponds were cut and there was no further trouble. Very malignant cases were developed on the edge of the ridge, on bluffs open to the ponds in the low grounds, at the foot of the hills. The cases were ushered in by a well marked chill, which may be followed by others at intervals of eight, twelve or twenty-four hours. During the first chill the urine becomes charged with blood in such quantity as to be unmistakable. The blood may become less, or disappear after this chill passes, but during the next chill it will return and be very much increased

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in quantity, and every subsequent chill increases the quantity. These chills may more properly be termed nervous rigors, and are followed by but slight, if any, increase of fever. As the proportion of blood increases in the urine, so the secretion of urine is diminished. As a rule, if the kidneys secrete urine freely all through the attack, the patient recovers readily; if there is a well marked decrease in this secretion, the patient has a hard struggle for life; and if there is an entire suppression of urine, the patient dies. The fever is of the remittent type, but showing no very considerable heat of skin, after the first exascerbation. Yet the skin is harsh and dry until an abatement of disease, an approaching collapse. The pulse at first is full, firm, and not exceeding 90 or 100, but as the case progresses it rapidly looses its volume and force, increases in frequency, and becomes irregular. In the first twenty hours, the skin shows but slight discoloration, unless there be unusual malignancy. But after that the jaundice increases, day by day, steadily, until a full, deep bronze is reached. When the blood ceases to show itself in the urine, if the latter be copious, the yellow color will speedily diminish and disappear, especially if, as is generally the case, there is profuse perspiration. The liver is torpid and the bowels constipated. After two or three days the stomach becomes extremely irritable unless delicately handled. If the vomiting continues a green fluid is ejected, which assumes a darker hue until it becomes of a slate color, or almost black. There is a crisis from the fourth to the tenth day. If favorable, the urine becomes natural, the skin becomes moist, the color approaches a natural hue, the stomach tolerates or craves food, the pulse fills out and becomes slower with increase of force. If unfavorable, the mind becomes dull and wandering, with perhaps coma, collapse and death. Or in some cases the vital powers seem oppressed by such a weight that life is crushed down and out, so early and so speedily, time is hardly given for any treatment, and certainly not to be accounted for in the amount of hemorrhage, or in uræmic poisoning.

In the treatment my first effort is to incite the liver to action and gently move the bowels, and for this purpose I give, say, six grains of calomel immediately after the first chill, repeating it every three hours until it acts, guarding it, if the stomach is sensitive, with two or three grains of Dover's powders and a few grains of bi-carbonate of soda. The mercurial may need to be repeated on the second day or later, but I prefer one grain of proto-iodid of mercury to the calomel, given at the same intervals. And to develop the action of these, hot water enemas are used, at as high a temperature as can be borne. A free discharge of bilious matter always prepares the system to be more favorably impressed with other treatment, and the stomach is less likely to reject food and medicine. My estimate of the value of the muriated tincture of iron in these cases is very high. I give it early and late in doses from 40 to 60 drops every fourth hour. It is likely to be retained well by the stomach. I think its effects at least three fold—alterative, anti-hemorrhagic and tonic—as an anti-periodic quinine exerts but little influence in controlling the chills, unless they be followed by a

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sweating stage. Its use has disappointed me, although I have given it in doses from small to heroic measure. Quinine was considered by me as much an antidote for miasmatic poison as any antidote we have for any other poison. Hence, I have given it, hoping for good. I have discontinued heroic doses, as productive of harm by upsetting the stomach. I do not expect much benefit from it, unless the skin is moist. The ferrocyanate is by far the best preparation in these cases. Under the recommendation of Dr. Jackson, I have tried atropia in three cases, but not very satisfactorily. I shall give it a fuller trial. I have used it with success in the collapse stage of congestion.

DR. A. W. CROSSLEY, TROY, PIKE COUNTY.

Please allow me to give a plain statement of my cases from memory, without observing the form you give in your circular. My first case was in the town of Rutledge, Crenshaw county, in 1871; do not recollect anything distinctly but the gastric trouble that we have in a severe case of bilious congestive fever; it lasted through the entire time the case was under treatment; bloody urine and intensely yellow skin. My next two cases were near Rutledge, a man fifty-six years of age, and his son sixteen, both taken early in the morning (the same minute almost) with severe chills, intolerable distress in the præcordial region, burning heat in the epigastric region, and incessant vomiting. I saw them in less than two hours and there was no amelioration of the above distressing symptoms; pulse 120—all I can count; perhaps some expert in counting pulse would make more out of it. I had no thermometer and cannot give the temperature; it was all they could bear I am sure. The skin began to turn yellow in one hour after my arrival, and it would be incredible to state how soon they became as yellow as they ever get. I have never seen a case begin to turn yellow so soon since. The first passage of urine after they began to complain was bloody; no hæmatemesis. I gave large doses of calomel and opium, and both got well as readily as bilious fever cases would under the same treatment.

In a few days I was called to see another case near Rutledge, attacked in the afternoon on Saturday with what he thought to be ordinary bilous fever. I was sent for on Sunday morning and did not reach him until dark; found him bilious; pulse all I could count; had been complaining from the beginning with great heat in epigastrium and distressing vomiting. Stupor had come on when I arrived, and I feared a speedy fatal termination from congestion of the brain. I gave, I suppose, seventy-five grains of calomel—nothing less I am sure—and quinine by the spoonful. Put a blister four by six over the pit of the stomach, and covered it with a hot poultice. In less than three hours I had a copious bilious evacuation from bowels, a very rapid reduction of temperature, and to my astonishment, a full blister. The heat from the poultice was almost sufficient to blister within itself. The short time in getting a perfect blister was not the only surprise. It contained a fluid nearly as black as ink. My patient, though, had recovered his mental equilibrium, told me he felt very well, and

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thought he would soon be well. I had a pleasant conversation with him of about one hour, which was broken up by a spell of restlessness without complaining of anything special. Black vomit set in without any effort more than ordinary irritation, lasting as long as the stomach had power to eject it. The skin, already bronzed, turned dark brown in large patches, some of them reaching half around the body. About fourteen hours after the relapse into unconsciousness, the scene closed. The urine changed about the time black vomit set in from blood red to almost black. I have never been in an epidemic of it since, and have had only an occasional sporadic case. I always observe a peculiarity in the gastric disturbance, and the bloody urine and yellow skin I regard the peculiar characteristics of the disease. Calomel, quinine and opium are my remedies, with frequent hot foot baths.

As to the time the hæmaturia begins there is no regularity; in some it begins before the patient complains of anything; in the majority of my cases ten or twelve hours after the accession of fever. I have never had but one case of hæmatemesis. My case of black vomit, and no discharge of fluid blood, preceded it. The fever is of the remittent type, pulse and temperature precisely like bilious remittent; recoveries very slow. I have never seen a person recover perfect health, except one sixteen year old boy. I ascribe the imperfect recoveries to the intensely malarial locality in part, but is greatly due to the injury the kidney suffers. I do not think the kidney is ever able to perform its functions properly any more.

DR. R. J. CRAWSON, WEOGUFKA, COOSA COUNTY.

Yours of the 22d inst. to hand, and I take great pleasure in contributing my mite, though it be so very small, and perhaps of no value to the profession. I have had only one case, and that of the hæmaturic form. A negro, age 21, previous health good (this case August, 1882), taken with high fever, vomiting frequently, but no blood; pulse ranged from 120 to 130, temperature 100 to 110 Fah. Was called in on the fourth day of attack; steamed him thoroughly, which set up profuse perspiration; then administered sulphate of quinine in five grain doses every hour with ten drop doses of muriatic acid every four hours, diluted. I continued this course twenty-four hours. I then gave sulphate of quinine in six grain doses every two hours; also gave muriate tincture of iron, one ounce; nux vomica, one ounce—mix. Fifteen drops every eight hours. I gave the quinine to control the malarial poison, the muriatic acid controls the hemorrhage, while the iron and nux vomica acts as a tonic and blood purifier. Notwithstanding I did all this the patient died, but I did not have a fair chance. I believe this treatment would be successful in time and on a white patient.

DR. J. M. DONALD, HARRELL'S, DALLAS COUNTY.

Hemorrhagic malarial fever is a disease almost always ushered in by a chill, and is generally followed, except in the congestive form, by a hot fever, which fever either intermits, remits, or continues from

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three to six days. Pulse ranges about the same as in intermittents and remittents. Temperature during fever 103½ to 105. In congestive form reaction is slow to take place; in that case, pulse frequent and weak. Jaundice comes on immediately after or with the chill; stomach sick, vomiting of matters variously colored; sometimes yellow, and frequently like a mixture of indigo and copperas, in large quantities, but most frequently yellowish or greenish mucus; bowels engorged and slow to respond to cathartics. The actions are dark and offensive, frequently small and inky black. Kidneys announce the nature of the attack, for immediately after the chill, and sometimes before it, a quantity of bloody urine passes from the bladder. The color of the urine varies from that of meat washings, through claret and port wine, to that of venous blood. I do not remember seeing a coagulum. The odor is that of urine mixed with blood; sometimes the urinous odor is absent. Duration from twenty hours to eight days; average five days.

Mode of death—1st. Uræmic coma in three-fourths of the cases; 2d. Exhaustion in one-fourth of the cases.

Treatment—Looking upon it as of malarial origin, I have nearly always employed quinine, and I think in curable cases, with decided advantage. Very many cases yield readily to the same course of treatment that we find so universally used in the cure of ordinary intermittent and bilious remittent fevers. Until the stomach and bowels are disgorged, and the fever jugulated, I think the use of iron and food, except fluid nourishment, in many cases injurious. To disgorge the stomach and small intestines, I am partial to the use of small and oft-repeated doses of mercury, followed after several hours with mild salines, in effervescence. After the various organs resume their functions, I think a course of tonics, including iron, quinine, strychnine and iodine, is frequently necessary to be kept up for several weeks.

First Case.—J. S. J., a white male, age twenty-three years; had a chill in the forenoon; I saw him about 3 p. m.; reaction had come on, but he was complaining of rigors whenever the air would strike him. Immediately after the chill a very copious discharge of bloody urine passed from the bladder, which discharges continued with very little change during the night and next day. Fever was moderate, pulse full, strong, and 120 per minute; complained of a general soreness of the muscles and some pain in the small of back. He suffered a good deal from nausea, and vomited about every three hours a large quantity, nearly a night glassful being ejected each time, of a peculiar matter looking exactly like the indigo and copperas mixture used years ago in dying cloth. If the matter was neither acid nor bitter, jaundice was well marked, and which was developed simultaneously with the hæmaturia; spleen was enlarged considerably, and he constantly complained of great fullness in the epigastrium; fever continued through the night, bu remitted somewhat in the latter part, but did not pass off entirely for three or four days. For treatment he got several moderate doses of calomel, which acted on the bowels during the night, and also some potash salt as a diuretic. He also took quinine quite freely, and after he came under its influence he had no more rigors. The fever gradually

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subsided and the urine gradually cleared up, and in about four days he was convalescent and made a good recovery. This case being the first that had been seen in this county (October, 1867,) we all thought the patient was bound to die, but I now know it was a very mild case. There was nothing remarkable about it, but the peculiar vomit. I have seen it a few times since, but do not think it has any great importance.

SECOND CASE.—I have not seen a case of the hæmagastric form as you define it—*i. e.* where the hæmatemesis takes the place of the hæmaturia. The latter was present in all the cases that I have seen. I saw one case in which the discharges from the stomach, bowels and bladder were exactly alike as far as I could judge. They were all very dark and granular, just like "coffee grounds," and having no odor to distinguish one from the other. The man (white), age thirty years, was attacked at noon one day with a chill, and died in thirty hours from exhaustion. I think his was the hottest skin I every felt. I did not take his temperature. He was very restless, nausea was almost constant, pulse 140 and feeble; jaundice had come on very suddenly before I saw him two hours after the chill. He remained conscious until near his death. The case occurred in October, 1868; had chills for a long time at intervals; lived near a swamp.

THIRD CASE.—Five o'clock p. m., was called to see a lady (age thirty-three, white,) October 17th, 1882; she had a chill at 2 p. m.; found her pulse 135, respiration 38, temperature 104½, deeply jaundiced, vomiting frequently, spleen hard, narrow, but reaching below the crest of the ilium. Patient very restless and sighing every few minutes; seemed to be very anxious about her condition, and frequently asking if I thought she had "yellow chills," and if I thought she would be bad. A very small, dark fluid was shown to me; it had passed from the bladder before my arrival. I tried to quiet her with bromide and chloral, but she would sleep but a few minutes at a time, and would soon wake up distressed as before. I remained with her during the night; at 10 o'clock p. m., (same day) after a very slight fall of temperature, she had a hard rigor which lasted half an hour, and was followed by a sharp rise of fever; kidneys acted no more, and before daylight I found her brain was being slowly poisoned by retained urea; she had still another rigor at 11 a. m., (18th) and died at 4 p. m. While using a vapor bath, about one o'clock, the yellow color faded from the surface, but after death it returned. She died comatose, with slight convulsions.

DR. A. R. ERSKINE, HUNTSVILLE, MADISON COUNTY.

CASE OF HÆMATURIA.—On the 12th of December, 1870, I was called upon urgently to visit, three miles in the country, the little son of a Mr. Berry Wall, age three years. I found him upon my arrival, about 12 o'clock noon, considerably prostrated, with pulse 108 per minute, respiration about 40, heat of skin slightly abnormal, with decided yellowness over general surface, slight tenderness over epigastrium and right hypochondrium. Inspected urine, to which my attention was called, passed only a short time before my arrival, which seemed to be almost entirely blood. This speci-

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men, which had been passed in a clean vessel, I secured in a properly cleansed vial. Made the following prescription: Calomel and pulverized Dover's powders, each six grains, which I at once gave him, learning from his parents that his bowels were somewhat confined. Half an hour afterward I put him upon three drop doses of Norwood's tincture of veratrum viride, ordering it to be given every three hours. As the little fellow had been having chills for several months previous to this attack, recurring every seven or fourteen days, having had one at 10 o'clock the night before and at 11 o'clock the morning I saw him, notwithstanding his parents had, according to their own account of his case, given him sulphate quinine frequently for these chills, with but partial good effect, I ordered twenty grains, divided into three doses, to be given at intervals of every two hours, commencing at 2 o'clock, my object being to prevent a recurrence of paroxysm at 10 o'clock, if possible, fearing the result if another occurred. My directions were followed, though at 10 o'clock no paroxysm returned, and the patient died. Examination of urine under microscope developed a few blood corpuscles only, by far the larger portion of the fluid passed being the coloring matter of the blood.

I report this case at the instance of my friend, Dr. Taylor, surgeon U. S. A., at this post, who had shown much interest in such cases, and whom I furnished with some of the urine of the little patient, in order that he might, from his long experience with the microscope, and his superior knowledge, throw out to the profession some light upon this fatal disease.

DR. A. P. FEAGIN, BROOKLYN, CONECUH COUNTY.

Your circular letter received. In reply, I will state that I have treated only nine cases of hemorrhagic malarial fever in the last twelve years. My first case was in 1872, the history of which, with four others, I can give you from notes taken at the time. I was called in the afternoon of March 10th, 1872, to see a young lady, aged eighteen. She was a resident of Wilcox county, and visiting relatives in my community. I learned that she had a chill the morning before, and that she had had several attacks of malarial fever the preceding fall and winter, for which she had taken quinine and arsenic. I found her with high fever, skin hot, dry and very yellow, tongue with yellowish coat, nausea with occasional vomiting, bowels constipated, pulse 120, very restless and passing blood from the kidneys. Having no thermometer, did not note temperature. I had heard of the yellow chills, or black jaundice, a term used by the physicians of Texas. My impression was that I had to deal with a case of malarial fever of congestive type, more especially hepatic and renal congestion. Gave my patient half a pint of warm water, which she vomited; repeated, with same result; applied mustard to the stomach, then gave her a cup of water, as hot as could be drank, with ¼ grain of morphia and two grains oxalate cerium. In half an hour she was more quiet, with less nausea. I then gave her quinine, 4 grains; calomel, 5 grains; fluid extract ergot, 1 ounce, repeated every three hours, until three doses of the above were taken, after

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which calomel was discontinued and quinine given in five grain doses, with the ergot. Between 11 and 12 o'clock she had two free actions from the bowels; found her pulse 108, gave her one-fourth grain morphia, and ordered quinine continued in three grain doses, with ergot and tincture of iron ten drops, every three hours, and left her. Saw her again at 9 o'clock, a. m., the 11th; pulse 90, skin moist, urine less bloody; took a little milk, ordered treatment continued. Saw her again on the 12th, afternoon; pulse 82, skin moist, hemorrhage had ceased, and resting quietly; discontinued ergot and iron; quinine, three grains, every four hours; port wine and milk, with soups; she recovered very rapidly.

Second Case.—Called to see John W., aged 32, August 8th, 1872, in the afternoon; found him with pulse 68, skin cool, profuse perspiration, bowels loose, nausea, eyes and skin tinged with yellow, tongue with yellow coat, hemorrhage from kidneys, very restless; had a chill about 10 o'clock a. m., from which he had failed to rest, pulse also intermittent. Gave him quinine, 20 grains; fluid extract of ergot, and aromatic spirits of ammonia, half ounce; morphia, one-fourth grain, every three hours; mustard to stomach and chest, also to spine and extremities; brandy occasionally. Saw him again at 12 o'clock at night; skin warm, but more yellow; pulse 77, more quiet, less perspiration; still had hemorrhage, more profuse; discontinued the ammonia and gave quinine, five grains; ergot, one dram; muriated tincture of iron, twenty-five drops, every three hours, also brandy and milk. Ninth afternoon; pulse 82, skin warm and moist, hemorrhage less profuse, but bowels acting too much; actions watery; treatment continued, and gave pulverized opium, one-half grain; sub-nitrate of bismuth, five grains, as required. Tenth afternoon. patient much better, and made a good recovery.

Third Case.—Saw Andrew M., October 3d, 1876; had a chill at 10 o'clock a. m., and one on the morning before; had frequent attacks of malarial fever in August and September preceding. Symptoms: pulse 112, profuse hemorrhage from the kidneys. skin hot, dry and yellow, bowels loose, nausea and vomiting, restless, and a little delirium, temperature not noted; applied mustard to the stomach; gave one-fourth grain morphia, hypodermically; gave quinine, twenty grains; ergot, one dram; tincture of iron, fifteen drops, which he vomited. I then gave quinine, forty grains, in solution by enema; after two hours repeated the quinine, ergot and iron, which was retained; in three hours dose was repeated, but the quinine reduced to ten grains, and continued until 12 o'clock at night. Patient no better; pulse 122, more delirium, skin still hot and dry, hemorrhage the same; quinine, iron and ergot continued every three hours, alternating with veratrum, four drops; potassa bromide, ten grains; blister to the back of the neck, and cold applications to the head. October 4th, 9 o'clock a. m.; pulse 106, skin a little moist; more quiet and slept a little; hemorrhage continued, but less frequent and less in quantity, took a little chicken broth. Five o'clock afternoon; pulse 120, skin hot and dry and more yellow, delirious, tongue dry and brown, hemorrhage the same, bowels loose and tympanetic; quinine, iron and ergot continued, with veratrum increased to five, six and seven drops, with the bromide and spirits nitre; cold applied freely to the

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head, abdomen well rubbed with turpentine. October 5th, 9 o'clock a. m.; patient better, pulse 103, no delirium, skin a little moist, urine a little stained with blood; treatment continued, except quinine and veratrum decreased to three grains and three drops; took some milk. Four o'clock p. m.; pulse 110, skin dry and hot, tongue dry, no delirium, hemorrhage slight; treatment continued, but veratrum increased, with directions to discontinue it at 12 o'clock until I returned. October 6th, 9 o'clock a. m.; patient better, pulse 92, skin cooler and moist, tongue moist, hemorrhage ceased; quiet, and took some milk and broth; quinine, three grains; veratrum, three drops; morphia, one-eighth grain, every three hours. Six o'clock p. m.; pulse 84; skin moist and general improvement, but recovered slowly. Patient had another attack on the 24th of October; symptoms about the same, but not so aggravated; treatment about the same. On November 8th he had a chill, and a little hemorrhage on the 9th; treated with quinine and iron; symptoms subsided promptly. I then gave him quinine, one grain; carbonate iron, one grain; strychnia, one-twentieth grain, in pill, to be taken three times a day, under which he improved very rapidly.

I was called to see Dr. H. on the 2d of November, 1883. He had several attacks of chills off and on through the fall. Saw him at 3 o'clock p. m.; had a chill the morning before; had taken calomel, followed by epsom salts, which operated freely; had taken no quinine. Found him with skin hot, dry and yellow, pulse 114, temperature 103, profused hemorrhage from the kidneys, not much nausea, but restless, tongue coated yellowish; gave him quinine, twenty grains, ferri tincture muriate, ten drops; fluid extract ergot, one dram, every three hours until three doses were taken, after which quinine was to be reduced to five grains. Being very busy I told the family to inform me if he did not improve. I never saw him until he was up, ten days afterwards.

Was called to see Mrs. H., aged 40, on the 12th of November, 1873, living in the same settlement of Dr. H., about one mile distant; learned that she had been having chills and fever for three months, for which she had taken purgatives and quinine; had a chill the 10th, 11th and 12th, about 10 o'clock a. m. I first saw her at 6 o'clock p. m., on the 12th; found her with fever; pulse 125, skin very yellow, profused perspiration, nausea and vomiting, hemorrhage from the kidneys profuse, temperature 104½; gave her half pint of warm water, which was vomited; gave her another, with same result; applied mustard to the stomach and gave morphia, one-fourth grain, hypodermically; became more quiet; gave her then quinine, fifteen grains; tincture iron, ten drops; ergot, one dram, every three hours; stomach seemed to retain it well. After three doses decreased quinine to five grains, repeated morphia at 11 o'clock p. m., and as there was but little difference in the pulse I gave her four drops veratrum, and repeated it in three hours. At 8 o'clock a. m., of the 13th, she seemed better; pulse 90, skin moist, hemorrhage had ceased, had passed no urine since 12 o'clock of the previous night, was quite cheerful, but complained of a little headache; took a little milk and toast. I left her with directions to continue the quinine only, with a dose of morphia at night. Called to see her again on the 14th, 3 o'clock p.

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m.; found that she had had a chill that morning; fever high, pulse 122, delirious, no action from the kidneys. I gave her spirits nitre, veratrum and bromide, blister to the back of the neck, cold to the head. She sank into a profound stupor, and died the next day, evidently with congestion of the brain. I found that after the hemorrhage ceased the kidneys did not act any more. I first thought that it was retention, but found no urine in the bladder.

I treated some other cases that I kept no notes of, but my recollection is that the symptoms were about the same, and the treatment varied only according to circumstances. This is the only case I have lost in nine. All occurred in the latter part of summer and fall except one; the majority was a remittent type. The origin is undoubtedly a malarial poison, and calls for quinine, which I rely mostly on. I use ergot with a view to its anti-hemorrhagic properties, and the iron, also, as a styptic. I think that the hemorrhage and jaundice usually occurs on the second day—that is, according to my observation, and that it generally attacks persons with preexisting malarial cachexia. I have never met with a case with hemorrhage from the stomach. The differential diagnosis between this disease and yellow fever, I am not able to give, as I have never met with a case of the latter. All that I know of the symptoms of yellow fever is what I get from general medicial literature, and what I learned from the lectures of Prof. Jones, of the university of Louisiana.

DR. R. M. FLETCHER, MADISON, MADISON COUNTY.

In reply to your circular letter, I will state that I have been living and practicing in a malarial district of country for nearly thirty years. As I have kept no clinical history of my cases, I will have to be general and circumstantial in making a report. During my term of practice I have seen some ten or twelve cases of hemorrhagic malarial fever. I have met with but one case of the hæmagastric form, supervening upon an attack of pneumonia. The other cases were all of the hæmaturic form. None of the cases were attacked *de novo*, but invariably occurred in persons whose constitutions had been broken down from chronic malarial poison. The autumnal season of the year is the time the disease most commonly prevails. I never saw a case of yellow fever, properly so-called, consequently I can give you no diagnostic differences between it and hemorrhagic malarial fever. As types, I will report two cases of the hæmaturic form that I saw, with other physicians, in the months of October and November of last year, (1883).

The first case occurred in the person of a little white boy, six years old. He lived ten miles from our village, and was brought to Madison for the purpose of being treated for the chills. In a few days after his arrival my friend, Dr. A. S. Harris, was called to see him. He found him suffering from a chill, with the following history: All through the summer and fall of the previous year the little fellow had chills. During the winter he recovered his health, and remained well until July, 1883. About this time his chills returned,

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and his health rapidly declined. The septenary periods were most usually observed in his attacks. Dr. Harris prescribed the usual remedies and left him. The next day he had another chill, and in the cold stage the hæmaturic trouble came on. Dr. Harris and I were called to see him, and found him in the following condition: Vital organs depressed, pulse small and frequent, temperature below normal, stomach extrememly irritable, thirst urgent, and voiding large quantities of bloody urine. We ordered a mustard cataplasm over stomach and bowels, and to have the extremities and spinal column well rubbed with brandy and capsicum. In consequence of the sick stomach, we resorted to rectal medication, and had eight grains of quinine and fifteen drops muriated tincture of iron, with a little tepid water, injected into his bowels. We also used sugar of lead and laudanum in the same way, alternating the treatment to meet the indications. This treatment was kept up during the night, of course regulating the doses according to the requirements of the case. By morning the stomach was sufficiently composed to retain both medicine and nourishment. Reaction being pretty well established, we endeavored to sustain him with stimulants, iron, quinine and good nourishment. His lips and tongue were very pale, and he seemed to be almost ex-sanguine. He had no other paroxysm; his urine cleared up gradually; nevertheless, he died on the fourth day of his attack, utterly prostrated.

The second case I saw with Dr. J. F. Delony on the Tennesse river, near the town of Triana, ten miles from Madison. This case was an old man seventy years old. He lived immediately on the bank of the Tennessee, and had been a sufferer from chills all of the fall. He had been treated by Dr. Delony for chills for some time before I saw him. He had taken calomel and quinine the day before the hæmaturia came on, but it failed to keep off the expected paroxysm. During the cold stage the skin became deeply bronzed, and the urine very bloody. It was at this time I saw him, (about the middle of November, 1883). His tongue was white coated and moist, pulse 110, temperature 103⅓, stomach quiet and retentive, bowels well moved from previous treatment. We gave quinine and tincture of iron in moderate doses, frequently repeated, so as to saturate the system gradually. I do not like sedative doses of quinia in this disease. The heart action is most generally weak, and the vital force feeble. In this case we allowed milk toddy freely. The old gentleman was in the habit of taking his dram, and we let him have it at will. The hæmaturia and jaundice continued slightly for a day or two, but he slowly recovered his health, and is at this time quite well.

In all diseases originating from malarial poison, I regard quinine the remedy, the antidote, safe and reliable, incomparably the best remedial agent we have. I know this is a random report, but it is the best I could do under the circumstances.

In a subsequent communication, Dr. Fletcher writes as follows:

I got your letter to-day. As I reported from memory, you can say twelve cases and eight deaths. I know this would approximate the truth. The

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hæmagastric case of which I spoke, occurred some years ago. I will give you as full a history of the case as I can under the circumstances. The case impressed me at the time as being unusual, and peculiar in some of its features. The patient was a negro woman some thirty years old. The day before I saw her, she had a chill. It was about twenty-four hours after the chill that I was called to see her, and found her with the following symptoms: High fever, foul tongue, difficult respiration, pain in the side, and cough. It being the fall season of the year, and the physical and rational indications all corresponding, I supposed I had a case of pneumonia. Blood-letting being fashionable at that time, I bled her freely, from the arm; also scarified and cupped her side, and ordered warm fomentations of turpentine and olive oil to be applied over the region of pain. I gave her a full dose of calomel and Dover's powder, and left with the promise to see her next morning. On my second visit I found that the medicine had moved the bowels, and she expressed herself as feeling quite comfortable. Regarding the case still as pneumonia, I prescribed alternative doses of ippecac, calomel and opium, to be alternated with veratrum viride, given in four drop doses every four hours. I left her with the understanding that I would call again the next day. To my very great surprise, early in the afternoon of the same day, I was summoned in much haste, with the statement that she was vomiting blood. Upon my arrival I found that she had discharged from the stomach a large quantity of dark looking matter, resembling disorganized blood. The conjunctivæ were quite yellow, and the urine yellowish brown. There was no epigastric tenderness or pain, but excessive thirst. I examined the lungs and found the pneumonic condition in a state of abeyance. I determined to remain with the patient and watch the case. I was not satisfied as to the nature of the disease. The initial stage of most fevers, having so many symptoms in common, that it makes it difficult, if not impossible in the outset, to discriminate between them. Having given veratrum, I thought that it might have acted as an exciting cause in bringing on the nausea. I observed closely, but was unable to discover any of the physiological effects of that drug; in fact, concluded that the vomiting was altogether independent of the veratrum. She vomited occasionally all through the night. To determine the nature of the ejected matter, I dipped into it a white linen cloth. After being dried it was stained red, and looked like it was blood stained, which, to my mind, was unquestionably the case. Now, doctor, I concluded that from the outset my case was one of hemorrhagic malarial fever of the hæmagastric form, and that the pneumonic complication for a time marked the true disease, and also misled and embarrassed me as to the real true nature of my case. At this period in the history of my case, I felt that the diagnosis was clear, but that the prognosis was very unfavorable. I employed such remedial measures as my judgment approved, such as quinine and opium per rectum, and calomel in minute quantities, say the one-sixth grain upon the tongue every half hour. I also used ice and morphine by the stomach, and revulsives to the epigastrium. Nothing seemed to do any good. She grew weaker and weaker all the time, and died on the fifth day from exhaustion.

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DRS. J. L. AND J. F. FOWLER, SHORTERSVILLE, HENRY COUNTY.

Hemorrhagic malarial fever: No. of cases, 21; recoveries, 20; death, 1; all hæmaturic.

The type of fever in all the cases was intermittent. Temperature usually from 100° to a 101° before the appearance of jaundice, when it fell to normal. Pulse from 10 to 20° above normal, and the heart weak and retarded in its actions on the appearance of the jaundice. The jaundice usually appeared from eight to ten days after the ontset of the fever, and was well marked. The stomach was very irritable throughout the entire course of the fever, and rejected most articles of food; rigid diet on an acid basis succeeding best. The bowels were costive, requiring purgatives to move them. The kidneys were congested; and the urine during the whole course of the fever more or less hemorrhagic. The fever lasted from four to five weeks.

We began the treatment with a mercurial cathartic, and followed this with two or three grain doses of quinine at intervals of two hours, and continued for two or three days. There was no special benefit derived from the use of the quinine, which was found to be serviceable only from its ordinary effects, as in all forms of fever. Potassium iodide and elixir vitriol were the remedies invariably persisted in until recovery was fairly established. In a few cases nitric acid was given; but the effect was not so good as that obtained from the above treatment. We usually gave two or three grains of compound extract of colocynth when the bowels were inclined to remain costive.

The disease attacked persons previously healthy, and with no pre-existing malarial cachexia.

We have had no experience with specific yellow fever, and therefore cannot give you any points of differential diagnosis.

In a subsequent communication Dr. J. L. Fowler writes as follows:

The disease you refer to as a stranger was the same to me in the form it assumed in the circle of my practice, differing from ordinary jaundice in gravity and character of symptoms, and from hemorrhagic malarial fever in that it attacked mostly young or middle-aged persons—and none under twenty years of age in my acquaintance—of both sexes and colors, and but two cases of the old occurred in my practice. It was much less malignant than hemorrhagic malarial fever, with which I have been familiar for some years. Most of the cases were among young men and women, from 20 to 35, who were previously healthy and robust. In my experience of hemorrhagic malarial fever almost every case supervened on a case of malarial cachexia.

From the 1st of July last, 1883, up to the 1st of March, 1884, we had but little rain at any time. Swamps and ponds dried up, wells failed, no electrical discharges from the clouds as usual, and to atmospherical influences I have supposed the disease to be due.

The cases were generally preceded or ushered in by gastric pain, loss of

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appetite, constipation, low grade of fever, sometimes continuous but usually intermittent, skin dry all the time, urine at first scant and high colored, in a few days becoming hemorrhagic. In some case there is troublesome vomiting, but I do not recollect to have had hemorrhage from the stomach. In one case in my own family there was considerable hemorrhage from both the bowels and the bladder. There was excessive vomiting but no hæmatemesis. The case was one of the severest of the season.

At the first in most cases the skin was a little tinged, but after five or six days it would become in all the bad cases, intensely yellow. The urine continued bloody all the time until the improvement set in, when it would gradually clear up.

I know of but two fatal cases in the county; one a white man, eleven or twelve miles down the river in the practice of Dr. Stovall; the other, a negro woman to whom I was called when she was already dying. I have no doubt that treatment at the proper time would have saved her.

My first case occurred in September, and my last case in February.

My treatment in most cases was a cathartic of calomel and compound extract of colocynth, every two, three, or four days as I thought necessary. In some cases dilute nitric acid was given, but in most cases aromatic sulphuric acid three times a day before meals in doses of from 15 to 30 drops; with potassium iodide in doses of from three to five grains after meals three times a day. Quinine and extract of gentian in pills was used in some cases. In other cases no quinine was given.

The disease was epidemic in my section. It is spoken of by our people as "the yellow disease;" and by the negroes as "dem janders."

Most cases occurred in localities where we frequently have bilious remittent fever, but not often chills. A large majority of the cases were whites.

DR. JOSEPH A. GROVES, BROWN'S, DALLAS COUNTY.

Your circular letter of January 22d is at hand, and I regret very much my inability to send you such a reply as you desire. But not having kept any memoranda of cases, symptoms or treatment, I can only give what my memory recalls.

As to the hæmagastric variety, I have never seen or known of any. Have had only one well marked case of what appeared black vomit complicating the hæmaturic form.

In my immediate neighborhood and practice, there has not occurred that proportionate number of cases that other sections and physicians have claimed or reported. Of the cases seen, some were with other physicians, and a few had repeated attacks. I give the more noticeable ones, and only such particulars as were impressed especially upon my mind.

1st. A man aged 45 to 50, living in a very malarious locality, was taken sick in Mississippi while on a brief visit there. Brought home jaundiced and troubled with vomiting and suppression of urine. Died uræmic after a few days. No treatment.

2d. Man aged about 50, living in a very malarious locality. Had severe

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rigor, followed by high fever. After rigor, observed hæmaturia, which continued about two days, gradually passing away. Yellowness soon became apparent, and increased until it became very intense or bronzed. Also nausea from beginning continued to increase until it became very intense and painful. There was no return of fever after abatement. At the worst stage there was ejected black coffee grounds-looking vomit. This was my first case treated and we were no little puzzled. Among remedies used were calomel, morphia, quinia, tr. iron, chlor. pot. and hypo sulph. soda.

3d. Man 25 to 30 years old. Had repeated attacks. Seen with Dr. L. L. Alston. Cannot give history. Lived in a malarious locality. Gave calomel and quinine.

4th. Man aged about 28 years, subject to chills, living in a malarious locality; was taken with rigor, and afterwards observed hæmaturia. Soon jaundice supervened, and nausea began and increased until it became intense and continued throughout. The hæmaturia continued for about 36 hours, when there passed a small quantity of muddy, inky-looking urine, which was followed by total suppression lasting about five days before death. During this period there was constant and copious perspiration, which no doubt prolonged life by eliminating urinic salts. The treatment consisted in purging with calomel, &c., blisters, diuretics, quinia, &c.

5th. Case doubtful. Boy aged five years, living in a malarious locality, recovering from what seemed a mild attack of diphtheria, was observed to pass a small quantity of inky urine, followed by suppression. At the same time he turned yellow, and suffered intense nausea. These symptoms continued for a few days, when he died.

6th. Girl aged about 15; had been living in a malarious district and subject to chills, more or less, during her whole life. Was taken with severe prolonged rigor, then hæmaturia was observed, which continued for about 36 hours, after which there was not noticed any discharge of urine, but she gradually became comatose and died after about two days. Jaundice and nausea were soon developed and became very intense. Had previous attacks of hæmaturia. Treatment about the same as case 4th.

7th. Girl about 12 years old. Had repeated attacks; lived in a very malarious locality. Seen with Dr. J. R. Pou. Taken as others but less violently. Hæmaturia gradually subsided in about 36 or 48 hours. Treatment, calomel, turpentine, quinia, veratrum.

8th. Man about 30 years old, living in a malarious locality and subject to chills all his life. Was taken with slight chill; took quinia; soon had another rigor, and observed hæmaturia; every administration of quinia was followed by renewed sense of chilliness, succeeded by increase of hæmaturia and fever, which occurred three distinct times in 18 hours, after which the quinia was stopped. The hæmaturia continued about 48 hours, or more. The yellowness and nausea were developed early and both became very intense, and continued for some days. We succeeded in moving the bowels with calomel, and endeavored to give turpentine, but the stomach rebelled against everything but ice, iced lemonade and buttermilk, and veratrum. Made a good recovery. Had had repeated attacks.

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9th. Man aged 35 years; had repeated attacks. Was seen with Dr. S. W. Vaughan. Had been staying in a very malarious locality and having chills. Was taken with severe and prolonged rigor, followed by fever, yellowness, hæmaturia and intense nausea. The stomach rebelled against everything. Hæmaturia continued for about 36 hours, and gradually subsided. The treatment consisted in large doses (by enema) of quinia, with whisky. Made good recovery.

10. Man about 40 years old, living in a malarious locality and subject to chills. Taken with rigor, followed by hæmaturia, fever, yellowness and nausea. The hæmaturia was not very profuse, and after about 36 or 48 hours was followed by complete suppression, the patient gradually passing into a comatose condition and dying after a few days. This case was seen with Dr. E. B. Mosely. Treatment consisted in calomel, quinia. turpentine, belladonna, packing with blankets wrung out in hot water.

In the above cases there are several points to which I would call attention, viz:

1st. The initiatory rigor, which is very marked, sometimes prolonged and reaction difficult. 2d. Fever slow to intermit. 3d. Increasing yellowness and nausea as the case progresses. 4th. Hæmaturia disposed to stop in about 36 to 40 hours. 5th. Blisters drawn contain serum of same color as urine. 6th. All the deaths were from uræmia, caused by suppression of urine, following immediately upon the cessation of the hæmaturia. 7th. In several cases the appearance of inky looking urine preceded suppression.

With regard to treatment, calomel was used to move the bowels. being more easily taken and retained; turpentine to prevent suppression of urine by increasing the action of kidneys. In the last case belladonna was given with same view, before Dr. Jackson made his report on that subject. Other cases seen and treated, but do not recollect enough of them to report.

In a subsequent communication Dr. Groves writes as follows:

I will endeavor to give you a typical case. It may occur at any season of the year. The patient is always the subject of malarial poisoning, though the attack sometimes happens after he has left his malarious locality, and removed to a healthier place. He may or may not have been having chills, but usually he has, and the chill immediately preceding the attack may have been slight, or rather, not well defined. The chill ushering the hæmaturia is very marked, severe and prolonged. The sensation of chilliness being persistent, otherwise not particularly different from other chills. There is apt to be nausea from the beginning, which increases, becomes very intense in proportion to the severity of the case, and only subsides with the passing away of the hæmaturia and the lessening of the icteroid hue. This nausea is the most troublesome feature in the treatment, sometimes baffling every effort to administer remedies by the mouth.

The first intimation the patient has of the peculiar nature of the attack, is upon the first voiding of urine after the chill, when he sees the hæmaturia, and upon observation an icteroid hue can be seen, which becomes

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more intense for two or three days following, until it becomes almost bronze. Upon recovery it slowly passes away. The hæmaturia continues from 36 to 48 hours, when it gradually subsides, and the urine begins to assume a more normal appearance and the patient recovers; or else suppression of urine immediately supervenes upon the cessation of hæmaturia, and the patient dies. Blisters drawn during the attack are filled with serum of the same color with the urine. The discharge from the kidneys does not seem to be strictly hæmaturia, but only the coloring matter of the disintegrated blood globules held in solution, together with admixture of biliary coloring matter.

As to the vomiting, of course what may have been taken into the stomach is first ejected, and the continuance of it is mucus and bile in abundance, mixed with what may have been taken into the stomach from time to time. The bowels are slow to act, and the discharges show great excess of bile, the evacuation of which is a great relief to the patient. To sum up: During the initiatory chill there is instituted a pathological process, manifested by disintegration of the red blood globules, and their rapid elimination through the kidneys; also the formation of great excess of bile, it being vomited copiously, also filling the intestines, and conjointly with the disintegrated blood globules, imparting an icteroid hue to the skin. This process continues active for about thirty-six to forty-eight hours, when it abates.

Persons who have had one attack of hæmaturic fever are liable upon every return of chills to have a recurrence of hæmaturia. I have rarely known a second rise of the fever, after its subsidence. Whether this is owing to the vigorous measures to prevent return, or a want of tendency to recover, I cannot say. The pulse and temperature are about what might be expected, considering the nature and degree of pathological action. The temperature is about like the fever following ordinary chills, and is disposed to remit or intermit according to the severity of the attack.

DR. J. M. GODFREY, SUMTERVILLE, SUMTER COUNTY.

1. Number of Cases.—I have treated ten cases of hemorrhagic malarial fever—of these eight recovered and two died. One of these had had seven different attacks of the disease, in three of which I attended her. Her father, a retired physician, who resided for some years in the "Mississippi bottom," had seven or eight well marked attacks.

2. Form or Character.—All of my cases were of the hæmaturic form. While in several of them there was some hemorrhagic vomiting, this symptom was not sufficiently well marked in any one of them to characterize it as hæmatemesic. All of the cases which I have attended began as an ordinary intermittent, the patient having from one to three chills before the disease assumed the hemorrhagic form, or, at least, until it was recognized as such. While in all of them it was decidedly paroxysmal, in some of them, after the first or second chill, the form of fever was remittent. The chills were usually severe and protracted, attended by headache and pain in the back and limbs common in the malarial fevers. The variety of the chill was

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either quotidian or tertian. When the chill passed off and the fever began to rise the urine, which is sometimes passed in considerable quantities, shows the characteristic dark-red color. It usually maintains more or less of this character during the whole attack, though sometimes in the intermissions or remissions clearing up to nearly the natural color. It contains albumen and is undoubtedly hemorrhagic. Along with the fever, and sometimes even before the chill has passed off, there comes on an excessive and sometimes continued nausea and vomiting. This distressing nausea was one of the marked symptoms in all the cases. The matters vomited were, besides the contents of the stomach ingested, mucus, colorless, or variously tinged bluish or greenish, and occasionally a dark hemorrhagic matter and bile. The temperature is not excessive, rarely reaching in the cases which I have seen over 100 degrees. The pulse is characterized by frequency without the hardness of the ordinary remittent. There is also excessive restlessness and marked depression, the patient complaining of being tired. The bowels are usually undisturbed, rather inclining to constipation. A few hours after the chill, along with the hemorrhagic urine, comes on the yellow hue of the skin, so characteristic as to give the name, by which it is known among the laity, "yellow chills"—this is of various shades, from a light yellow to a dark one. With the exception of the state of marked depression the mind is not usually affected, and I have not observed delirium in any of my cases. The duration of the disease is short, terminating in recovery or death in from two or three to seven or eight days. Of course the patient is frequently left debilitated and anemic for some time, which needs treatment, but the duration of the disease itself, in my experience, is as stated. The mode of death in one of the cases was by coma, and the other from heart failure.

3. Treatment.—Regarding the disorder as having a malarial origin, my main dependence has been in the use of quinine, accompanying it of late years with atropia. As the distressing nausea is one of the main obstacles in the management of the case, I have derived marked benefit from the use of ice crushed and given in small quantities to be swallowed by the patient. The hypodermic injection of morphia I have also been in the habit of using for the same purpose, as well as for its general quieting effect. Counter irritation, with mustard over the stomach and bowels and the use of bromide of potassium, and chloral by enema, are valuable adjuvants. The tincture of the chloride of iron, I am satisfied, is also beneficial, not with a view to any astringent action, but to its reconstituent power in the blood. I have not treated the hæmaturia at all, regarding it as one of the effects and not the disease itself. It is my decided conviction that where we can get the patient under the influence of quinine in time, and to do this it is necessary sometimes to use it hypodermically, we can control the disease.

4. Natural History.—My experience has satisfied me that what we understand by malaria is the cause of the disease. While not occurring always, or even generally, perhaps, in those who manifest a malarial cachexia, yet it invariably attacks those living in a malarial region or who have been exposed temporarily to such influences. It is liable to occur in

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those places giving rise to ordinary intermittents, and localities free from other recognized malarial disorders are exempt from hemorrhagic malarial fever. It is most prevalent in the latter part of summer and autumn.

5. Diagnosis from Specific Yellow Fever.—Specific yellow fever does not usually prevail in localities considered specially malarial, but in cities and larger towns, and occurs epidemically instead of sporadically, as does hemorrhagic malarial fever. The mode of attack in the latter is usually with a more decided chill, and the daily paroxysms in this instead of the one paroxysm continuing from three to six days, the almost invariable accompaniment of hæmaturia in the one and its absence in the other, the lower range of temperature in hemorrhagic malarial fever, the non-infectious character of the one contrasted with the conceded infectiousness of the other, the fact that one attack of hemorrhagic malarial fever does not prevent subsequent ones but rather predisposes to their return, while one or at most two attacks of the specific yellow fever usually gives immunity, are the main points of distinction which occur to me.

DR. JAMES GUILD, JR., TUSKALOOSA, TUSKALOOSA COUNTY.

I have the honor to acknowledge the receipt of yours of the 22d, propounding some interrogatories in regard to hemorrhagic malarial fever, which I hasten to answer briefly. I have no clinical information of the hæmagastric form, but with the hæmaturic I am very familiar, having treated many cases, losing only one patient. This disease, or strictly speaking, this effect of disease (consequent upon intermittent or remittent fever), is dependent upon certain pathological conditions. Its graver forms are characterized by complete hepatic infarction, necessarily accompanied by great portal obstruction, the function of the kidneys almost entirely arrested. The range of temperature very low, surface cool, with intense thirst. The range of pulse frequent, but feeble. As to duration, it is very short where properly treated; convalescence slow and tedious. As to treatment, I have found quinine contra-indicated. The indication is to establish a healthy portal circulation, thereby liberating the kidneys; in fact, by so doing, we stop the hæmaturia. My first case was treated with quinine, administered hypodermically, from necessity, and the patient died. Calomel is the sheet-anchor; given in small, repeated doses, it will reach the stomach, tranquilizing the irritable organ which revolts at anything else; the functions of the bowels, apparently suspended, the action of the calomel must be solicited by stimulating enema. When the glandular system is thoroughly aroused and the fetid secretions eliminated, we begin to have bloodless urine and the patient is safe. Quinine is now admissible, both as a tonic and anti-periodic. Mode of death is uræmic. Malarial hæmaturia should not be denominated a disease *sui generis*, it is solely a sequel of malarial fever; it is most prevalent in the fall, but frequently appears in the winter and spring. Unlike yellow fever it never manifests itself in persons previously healthy, which, of itself, is sufficient to differentiate the two diseases as totally unlike. It is my opinion that the *icteroid* appearance of the

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skin is chiefly dependent upon disorganization of the blood--the hæmatric causing the yellowish discoloration.

In a subsequent communication Dr. Guild writes: First—Without alluding to the treatment or enumeration of the mild cases, in which there was no great dyscrasia of the blood, in fact unaccompanied with any untoward symptom except the bloody urine, I will refer to six typical cases alone, all adults, three males and three females, whose history was indelibly stamped upon my recollection.

Second.—The disease never appears in Tuskaloosa town, nor immediately upon the banks of the Warrior river, but near the low lands skirting this river, where there is a great deal of stagnant water.

Third.—I will endeavor to give a clinical picture of the above six typical cases by the rehearsal of one, emblamatic of all. About six years ago Dr. Robert N., an active practitioner, resided five miles south of Tuskaloosa, upon a small tributary to the river, very near a beaver dam, one of the sickliest localities in our county, was stricken down with malarial hæmaturia. His attack was preceded by malarial fever, intermitting or remitting according to the intensity of the poison. Before taking charge of this case it had been subjected to the quinine treatment, by another medical man, without avail. Being abandoned as hopeless, the case presented the following symptoms, indicative of speedy dissolution: The spinal decubitus was maintained throughout, the patient seemed to be fixed to the bed, which position is almost always assumed by the moribund; respiration slow and labored; pulse ranging from 120 to 144 per minute, very feeble and compressible; skin dry and yellow as saffron, its temperature unnaturally low; tongue coated with a brownish fur, not particularly dry, rather cool to the touch. A very striking feature was the condition of the breath, it was cool and odorless; insatiable thirst, though the stomach rejected the smallest quantity of water taken. There was marked indifference to everything but the agonizing cardialgia; complete inertia of all the abdominal viscera, subsequent to the great torpidity of the liver; frequent micturition of bloody water, devoid of the peculiar odor of urine.

The prognosis may be regarded as favorable, for I know of no affection in the whole catalogue of diseases so deadly in its tendency, when left to nature, that yields so readily to art. In the treatment, the first indication is to relieve the liver and kidneys as quickly as possible with mercurials. Notwithstanding the great debility there is loathing of food; in the paralyzed condition of all the functions food cannot be assimulated, consequently there is complete anorexia. Mercurials are borne well and never fail to effect our purpose when the vital energy is not too far spent. Sacharated calomel, in small and repeated doses, is the best form to administer it. As an adjuvant to the specific effect of the calomel in disgorging the abdominal viscera, nothing is more applicable than a large fly-blister. Frequent warm water enema is very requisite to encourage free purgatives. This line of treatment was strictly pursued in Dr. N.'s case, and after the first twenty-four hours there was a steady improvement. When possible, there should be entire change of the patient's surroundings, for convalescence is tedious with the best of restoratives.

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DR. R. H. HAYES, UNION SPRINGS, BULLOCK COUNTY.

From a press of outside business, have been unable to answer your circular letter in regard to morbus flavus, and find now that I have misplaced it; hence, cannot answer the special points. Will give you a short report from memory of two cases treated.

The first of these occurred at Thompson's Station, seven miles west of here, the patient a young man, about twenty-two years of age, tall, spare, but of a strong constitution; had been subject to "chills and fever," he said, all the early fall. On my arrival, his father met me, stating that his son had "yellow disease," and that they did not want him to know what was the matter. After taking a seat at the bedside, the young man himself said to me: "Doctor, the old folks are trying to deceive me, but I know that I have yellow disease; am not frightened and do not want to lie here over a week, stating that I must give him plenty of quinine and calomel; that the calomel would certainly salivate him, but he did not care for that; he did not get sick to die and would be up in a week." I followed his treatment with the addition of a good diuretic mixture, and later on the use of tincture of iron. I saw him first about seven o'clock in the morning, during a paroxysm or hemorrhagic stage, so far as his case was concerned—that is, he passed a considerable quantity of bloody urine, port wine color, between the time and hours of 4 and 9 a. m.; he had similar paroxysms on each of the two preceding days lasting about the same time, the urine clearing up about nine each day and remaining comparatively so the balance of the twenty-four hours. There was no hæmatemesis, no nausea, no rigors; he did not complain of debility, and his appetite was fair throughout. There was the characteristic discoloration of the skin, pulse about normal in slumber, but of full, free volume, according with Dr. Jackson's theory, calling for the use of atropia. My thermometer at the time was broken, so I did not take his temperature, but am satisfied from what I saw of him and the report of attendants, that it varied but slightly from the normal. In this case there were no after symptoms of interest. I pushed the quinine and calomel with an occasional use of the diuretic, patient was slightly salivated, had no other paroxysm and no further trouble, was up and walking about in less than a week. This, I think, was one of the mild cases you and Dr. Hogan speak of.

The second case occurred here in Union Springs. The patient, a bachelor, thin, sparely made, and of nervous temperament, bad patient and easily frightened when sick, sent for me, then father, and afterwards Drs. Hogan and Jones. When seen first had a decided rigor, nausea and characteristic urine and discoloration of skin, bowels constipated. We took no notes, so do not remember the exact condition of pulse and temperature. As the rigors were frequent and nausea almost a constant symptom during each twenty-four hours for a week, we were compelled to use morphia and atropia hypodermically and stimulants internally, with the use externally of mustard and warm applications in order to support him; each rigor and spell of nausea would seem to be the last. We began with calomel and

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quinine, but finally had to open the bowels with enemas, and administered the quinine by enema ; gave diuretics all along; his kidneys secreted tolerably well during his sickness, but the urine did not clear up distinctly until his recovery. At times he appeared delirious ; would sing and scream and pray, all of which may have been due to his fright, which was extreme. Father and I were with this patient alternately day and night for a week, administering all the medicines. He vomited once a bluish black substance thought due to the calomel and milk. He finally made a good recovery, I think due to the fact that his kidneys worked so well ; all the other symptoms were bad.

I saw another case at Fitzpatrick's Station in connection with Drs. Fitzpatrick, Hogan and Jones, the patient an old lady. She had all the characteristic symptoms, and all unfavorable. She did not improve whatever under any line of treatment, and died within two or three days.

DR. J. B. HARVLEY, BELMONT, SUMTER COUNTY.

I received your circular some time since, requesting a full and circumstantial account of my experience with hemorrhagic malarial fever. Pressure for time forces me to be brief, consequently I can only give you a sketch. I met my first case in the fall of 1859, in the vicinity of Carthage, a little village situated three-quarters of a mile from the Warrior river, in Hale county, Alabama, at which place I was then located, and while there treated fourteen cases during the fall of 1869 and the winter of 1870, with a result of one death and thirteen recoveries.

Have treated altogether twenty-two cases, resulting in three deaths and nineteen recoveries—all whites. Here I will mention one feature of this fever I have noted ; have never met a case, or heard of one among negroes, being confined to the white race ; although the blacks are equally exposed, in many instances more so, to the same miasmatic influences. During my residence in Hale county I noted six or seven cases, carefully taking down its character, type of fever, course and termination, but have unfortunately lost them.

Before my removal to this State in 1869, I read, with great interest, reports of seven or eight cases treated by Dr. T. C. Osborne, of Greensboro, Alabama, published in the New Orleans Medical Journal, in either 1867 or 1868. He, according to my opinion of, and experience with this disease, gave a very correct and minute description of it. My curiosity and interest were awakened by the appellation given it by him : "Canebrake yellow fever, or hæmatural malarial fever," (something to me then entirely new,) and named a certain locality near Greensboro, "Headquarters of malaria." From reading Dr. O.'s account of it, I obtained so clear an idea of the disease, that I recognized without difficulty the first case I saw. His treatment was similar to the general treatment at that time of intermittent and remitting fevers. I think all his cases terminated fatally. A reference to these reports will give you a better idea of my views of this fever—excepting treatment—than I possibly have time to give.

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I have never known it to attack *de novo* previously healthy people. Its subjects are always persons of a pre-existing malarial cachexia, and *cæteris paribus*, the attack is severe at the outset, and if not relieved by timely remedies, will rapidly pass into each of the different forms given by you—hæmagastric and hæmaturic. You have given precedence to the hæmatemesic form. My experience has taught me to believe that these forms are one and the same disease, but of different degrees of severity at the outset. I have never witnessed a case of the hæmatemesic form without the hæmaturic preceding it. I regard the latter as the initial stage; here, if not promptly arrested, speedily assumes the hæmatemesic form—discharges from both sources, sometimes coming together—resemble each other in color and consistency, with not unfrequently a bloody fluid discharge from the bowels. Toward the fatal termination of this fever, indications of a dissolved state of the blood appear, such as dark colored spots on the skin, petechia or vibices, and sordes collect upon gums, teeth and lips; the surface of the tongue is coated with a black looking crust.

After passing into the hæmatemesic form, the character is very grave and difficult to manage. If proper treatment is commenced at first appearance of bloody urine, the prognosis is favorable. The skin always assumes an icteroid appearance, depressing, as the violence of the fever increases, to an orange color, and chameleon-like, changes from light to dark or bronze, and at death, lightens to a bright lemon hue.

I will give you notes of an interesting case I treated here in 1878, relying upon memory to guide me, having no notes, &c. J. S., aged eighteen, tall and spare built, German parentage, laborer on farm on Bigbee river five miles from this place, in a low, flat, sandy locality, subject to overflows; was brought from plantation to this place on the 22d of August. August 23d was called in at 12 o'clock, m. He was reported to have been attacked eight days previous with every day chills; the cold paroxysm coming on in the afternoon; had suffered from repeated attacks of chills, his parents breaking them in the usual manner, with quinine, &c.; commenced passing bloody urine three days before my first visit; found him suffering intensely from what I consider the worse stage of hæmatural malarial fever, in common parlance, "yellow chills." Patient presented an appearance of dejection and alarm; pulse 140, pain in limbs and head, jactitation, great restlessness, oppression in epigastric region, throbbing of arteries, irritation of stomach, hawking and spitting a greenish yellow fluid, discharging bloody fluid from stomach and bladder; the discharges from stomach sometimes alternating from blood to a greenish yellow, ropy fluid, with burning pain in stomach; tongue dry and coated with a dirty brown crust; skin a light yellow. Gave calomel and bi-carbonate of soda, each four grains; sulphate morphine, one-fourth grain, floating on water; ordered mustard plaster to the stomach. Made pills of sulphate quinine, twenty grains; blue mass, twelve grains; pulverized capsicum, ten grains; pulverized Dover's powders, twelve grains; divided into ten pills, to be given one every two hours.

Six o'clock p. m.—Had taken three pills, symptoms more alarming, con-

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fused and anxious countenance, tossing from side to side of the bed, throbbing of arteries, breathing hurried and oppressed, irritation of stomach, pain in splenic region, constantly spitting a greenish yellow mucous, pulse 140, skin orange color, copious hemorrhagic discharges from stomach and bladder; ordered pills continued, alternating with saturated solution of chlorate potash, calomel rubbed under the arm-pits, quinine with alcohol rubbed on pit of stomach, turpentine on spine, mustard plaster over region of spleen.

August 24th, 6 o'clock a. m.—Nurse reported that patient quieted down, and rested a little in the early part of the night; could not get him to take pills at regular intervals; became very restless before day; is now gulping and spitting a greenish yellow, ropy fluid, vibices; has a dirty, black collection of sanids sordes upon gums, teeth and lips; tongue heavily coated with a blackish brown crust, parched and dry; very great pain in splenic region and burning pain in stomach; constantly rising up in bed; incessant hemorrhagic discharges from stomach and bladder, sometimes copious, sometimes scant, with an occasional bloody fluid discharge from bowels; those from stomach alternating from blood to a black discharge, with a sediment resembling coffee grounds or "black vomit;" skin bronze color, evidently becoming exhausted.

11 o'clock a. m.—Comatose; low muttering delirium; hurried respiration; died at 12 o'clock, m.

The points of resemblance of this fever to yellow fever must be very striking to a common observer, as the father of the young man declared it yellow fever, and would not believe otherwise, he having nursed some of his relatives during a fever epidemic, probably in Mobile, many years ago. You will observe from the history of this case, that the patient was attacked with chills, seven or eight days previous to the appearance of the hæmaturic discharge; continued in this condition for three days, when hæmatemesic discharges commenced on the fourth day, a. m. I was called in at noon, found him discharging copiously from both sources—the fluid peculiar to this fever—at the same time. These facts are characteristic of all the cases which have come within my knowledge. There are intermitting and remitting types of this fever. Quinine at certain stages has a good effect, when given in moderate doses at regular intervals. I have never experienced any advantage from its use in heroic doses; have known it, when thus administered, to greatly increase the irritation. Regarding the diagnostic differences between this and yellow fever, I have no personal knowledge of the latter; have little else to guide me than conflicting opinions and diluted citations of authors on this subject. To my judgment it appears that the differentation between it and yellow fever are obvious; certainly there is a difference in the intensity of the poison or ferment, and very probably in its nature too. Yellow fever attacks during the latter hot summer and early fall months, and then ends with the first killing frost. It is also claimed that one attack is immunity against a second. Hæmaturic or hemorrhagic attacks in summer, fall and winter, and it attacks the same person after recovery from it once or twice during the same season. Have

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treated it in the same individual in six weeks after a former recovery. Treated a case once—severely attacked—thirteen miles from Carthage, among the long leaf pines. Never have heard of yellow fever introducing itself into country localities, unless first contracted in cities.

DR. S. M. HOGAN, UNION SPRINGS, BULLOCK COUNTY.

Hemorrhagic malarial fever, yellow remittent fever, malignant congestive fever, prairie yellow fever, chachemia, hemorrhagic, yellow disease, swamp fever, &c., &c. These are only a few of the names given to a disease that made its appearance in this section of Alabama, and probably some of the other Southern States in 1857, when a few cases were seen and afterwards it was only occasionally met with until the fall of 1865, since which time it has prevailed to a greater or less extent every year. It is probable Dr. Heustis may have seen a few cases in the fall and winter of 1821 and 1822, still he did not recognize it as a distinct form of disease. We learn from the New Orleans Journal of Medicine that the first published account was by Detrouleaus in the October and November numbers of the Archives Generales de Medicine for 1858; the next by Dr. Faget, of New Orleans, in 1859. Since then a great many articles have been published in different medical journals, but the most complete description we have seen of the disease is by Dr. R. F. Michel, of Montgomery, Alabama, and Dr. T. C. Osborne, of Greensboro, Alabama, in the New Orleans Journal of Medicine for 1869; and in 1876, Dr. R. D. Webb, of Livingston, Alabama, wrote a very exhaustive article on the subject, which was read at the annual meeting of our State Association, and was published in our Transactions. As you all have access to this article, I will not go further in the history of the disease. All who have written upon the subject contend that malaria is the exclusive cause of the disease, attributing the peculiar symptoms to a concentration of the poison, or to the idiosyncracy of the subject. Dr. Bemiss, however, says in the October number of the New Orleans Journal of Medicine for 1869, page 721: "We must say that malarial poison has either acquired some new property which gives it especial liability to produce disease of the kidneys, or that it finds the systems of its subjects in some peculiar pathological state which favors the occurrence of renal hemorrhage. I believe the latter—that is, the state of the system at the period of attack more often becomes the ruling pathogenetic condition." We, however, believe in the first proposition—that is, that malarial poison has acquired some new property, or that it is a disease *sui generis*.

First. Because we find cases of the disease in persons who have never had a chill or any form of malarial fever, and whose previous constitution was perfectly sound and healthy.

Second. Because we have as mild a type of the disease as we have of the ordinary malarial, and as equally amenable to treatment, and probably more so; for while the malarial almost invariably recurs, this seldom does, and if it should the intervals between the attacks are generally twelve months or longer.

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Third. For the past forty years, and we might say from almost time immemorial, malarial fevers have been met with, from the simplest chill to the most malignant congestive, and in every form of constitution, without this peculiar renal complication.

Fourth. Malignant and congestive forms of malarial fever are exceedingly dangerous to children, while this disease with them is very mild; few ever die with it.

Fifth. Quinine is not a specific in this as in the malarial.

Sixth. The cold of winter has little or no controlling effect on the disease; the majority of the cases have occurred in the winter, some in the fall, some in the spring, and but few in the summer.

Seventh. The negro is almost entirely exempt from it. While we hold that the ordinary malarial is not the essential and specific cause of the disease, yet it may so undermine the constitution of a subject that it may fall a ready prey to whatever the specific cause may be, and it may also add to it some of its peculiarities. This usually has its premonitory symptom like almost every disease, but they are not diagnostic. Some cases commence with a chill, or there may be two or three chills before the symptoms appear. Others have no chill, but on urinating after having a feeling of weariness or languor for several hours or days, find they are voiding what they call bloody urine. Still another class of cases commence with colic, and have fewer of the premonitory symptoms than either of the other. In a large majority of the cases the attack comes on at night. In the cases that commence with chills the febrile symptoms are more fully developed; such as heated skin, extreme thirst, hurried respiration, quick pulse, restlessness, &c., &c.; the temperature ranging from 101 to 105; pulse 80 to 120 or 130. The nausea and vomiting are very severe, and are regarded by many as peculiar to the disease. The appearance of the matter ejected is generally dark green, but we may find in it lumps of clotted blood after continued retching and vomiting; after complete suppression of urine the appearance is very similar to the black vomit of yellow fever; the tongue usually has a deep purple color, with a thin yellow coating, but it may look flabby, and the coating yellow or white and very thick; sometimes during or after the chills the patient will void a peculiar dark-colored urine, or it may appear after having several chills, and it is generally considered pathognomonic of the disease. In some of the cases, however, no urine is voided at all, there being complete suppression from the commencement of the attack. In patients who have had chronic chills, or even if the attack is ushered in with a chill, the bowels are almost invariably loose; the operations are frequently as often as every two, three or four hours, and of the consistency and appearance of batter made of coarse corn-meal, except it is of a brown or deep yellow color—in the other class of cases, and especially those that commence with colic, they are generally constipated, and, where there is suppression of urine, obstinately so. Almost immediately after the first discharge of urine the eyes become yellow and the skin a peculiar bronzed color, considered by many as pathognomonic of the disease. Should there now be an intermission, or a remission, there is an abatement of a majority

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of the symptoms and the patient may speedily convalesce, but should he have another paroxysm the most of them will recur, and some with increased virulence; and now if the patient continues to grow worse, he may have hiccough, subsultus, and an indisposition to be moved or interfered with, and the urine is diminished in quantity, or is completely suppressed, and the bowels either act involuntarily or are obstinately constipated; the skin becomes cold and bathed with a clammy colliquative sweat. Convulsions and coma have been met with by several physicians, yet in the cases we have treated none presented these symptoms, unless it was in one case that had some slight contractions of the muscles about the right eye just as death took place. The patient asked for water, and, not feeling that he had been raised sufficiently, succeeded in raising himself, but as he commenced to drink they made their appearance and he died in a moment.

Should the patient recover, the fæces will become black and tarry, or thick and consistent and natural in color; the urine lighter, assuming its natural hue; the skin clearer, and all the other symptoms will disappear, convalescence being fully established. Or an asthenic condition of the system may set up, attended with more or less heat of the surface, a feeble and quick pulse; the tongue has a glazed appearance, with red edges, or it may look almost black; sordes collect on the teeth; diarrhœa sets in, and the patient dies from exhaustion—or he may even recover yet, convalescence being exceedingly tedious. Some of the symptoms of the disease require more than a passing notice, and prominent among them is the peculiar discharge from the kidneys—it is a hemorrhage. From the limited number of specimens we have examined we are not prepared to decide this question, but are inclined to the opinion that it is not necessarily so. In a small number of specimens, we have been enabled to find a few blood corpuscles in some and a great many in others, but in much the largest number we failed to find a single one after a diligent search with the microscope. There is no doubt, however, but that the discharge contains all the elements of blood, but in a disintegrated condition, and this disintegration does not take place either in the kidneys or bladder, but in the spleen, which many physiologists contend is its special function. There appears to be a partial paralysis of the excited secretory system of nerves, and owing to this the liver fails to complete the process of metamorphosis, hence the blood vessels are supplied with a portion of this impure and disintegrated blood, so when it arrives at the kidneys their power of discrimination being partially lost they return or reject the more healthy or vital portions, the discharges simulating more a filtrate than a secretion; but should any of the capillaries give way we may have a hemorrhage, hence we have the peculiar colored urine. It may have any shade, from a bright cherry to a dark coffee, or part urine color. The first discharge is usually very copious, often amounting to a quart or more; afterwards it diminishes to a pint or a few ounces every two, three or four hours, or finally becomes entirely suppressed. We will not attempt to discuss the amount or character of the coloring matter which remains in the circulation from this imperfect metamorphosis and assimulation, but will notice the yellow color of the skin, which is also a re-

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sult of this imperfect change and is equally diagnostic. It is exceedingly rapid in appearing, or, as Dr. J. C. Osborne says, "it develops in the twinkling of an eye," and is of a greenish-yellow or bronzed hue, differing either from yellow fever or jaundice, and affect not only the tissues but many of the organs of the body; and it matters little how deep the color or how long the system has been affected, it will disappear as rapidly as it appeared should the patient convalesce. If a blister be drawn the serum will present the exact color of the urine, showing the imperfect and depraved state of the blood. In none of the cases we have treated have we seen epistaxis, melæna and hemorrhage from the gums or fauces, but would not be surprised to see them in any case. Epistaxis has been a very prominent and alarming symptom in some reported cases, but it was probably due to the large doses of quinine that were given. Although a few cases have been reported in which the brain was affected, manifested by coma or convulsions, yet in the majority the mind remains perfectly clear and unclouded until they die. We have been astonished to find suppression of urine for forty-eight or even sixty hours without any evidence whatever of uræmic poisoning. It may be that the urea, or the products of its metamorphosis, or whatever element it is that causes the coma, or intoxication, is carried out of the system through some, or all of the various channels, or may be the paralysis is sufficient to prevent or so modify the natural processes of waste and repair, as to prevent the formation of the peculiar toxic principle of uræmia. Nevertheless, some change is going on which is equally destructive to life. Patients generally suffer with less pain in this disease than almost any other, and were it not for the excessive nausea and vomiting, or hiccough, would feel remarkably comfortable.

The temperature of the body never gets very high, except in those cases ushered in with a chill, when it may reach 105, which is the highest I have examined, but the skin usually feels natural, moist and pleasant. If, however, a collapse comes on, the extremities get cold and the skin is bathed in a cold, clammy perspiration, the respiration labored, the pulse increases in frequency to 140 or 160 per minute, is very weak and easily compressed, or it will finally cease in the wrist and extremities several hours before death. The duration of the disease is from two to eight days; some recover rapidly, but in others convalescense is exceedingly slow and tedious. We know of no disease with which this would likely be confounded, unless it is yellow fever, but we think the bronzed hue of the skin, the color of the urine, the condition of the circulation, the temperature, the character of the vomit, and the location, will be sufficiently diagnostic. Although the disease is very dangerous, we cannot regard it as fatal as some. We have seen patients recover with all of the most violent symptoms, except suppression of urine, and this we regard as the most fatal symptom. We frequently meet with attacks of colic as a sequel of the disease, which is very obstinate, and brought on by the most trivial causes. We have also seen two cases of chronic diarrhœa; one yielded readily to treatment, the other died three years after the attack, with symptoms of tuberculosis. I have

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only witnessed a partial post mortem examination of one case. The rigor mortis not well marked, the whole surface presented the deep bronzed color. On opening the body every tissue was of a deep yellow color; the mucous membrane of the stomach slightly thickened, the spleen was very large, hard and firm, the liver was larger than natural, firmer and almost a natural color. There was some dark green bile in the gall bladder, the kidneys were of nearly natural size, and looked perfectly healthy, except a very small cyst in one about the size of a pea; the bladder was empty. It is best to commence the treatment, if possible, by placing the patient in a hot mustard or lye bath, and we have found they could bear it much hotter than in almost any other disease. Five to fifteen minutes will be sufficiently long for them to remain in it, when they should be taken out and thoroughly dried. Then, if the attack has commenced with a chill, or if they have had chronic chills, we would give from two to ten grains of calomel every three or four hours, and five grains of quinine in the same intervals, alternating the doses. In the nausea and vomiting we have found nothing better than the subcutaneous injections of morphine and atropia. Still we have used with some effect iced champagne, oxalate of cerium, chloroform, spirits turpentine, creosote and chloral hydrate and hyposulphate of soda in one-half dram doses. After we get the specific effect of the calomel and quinine we either increase the intervals between the doses, reduce the amount, or leave them off entirely. If the stomach rejects the quinine, it may be given by enema in ten grain doses, every four or six hours, or by subcutaneous injections in half the quantity. But if the attack commences with colic, and there has been no chills and the bowels are costive, we would give thirty to sixty grains of calomel every three or four hours, until they were thoroughly acted upon, leaving off the quinine entirely. If the actions are thick, black and tarry in appearance, the patient will feel stronger and better, and the urine will generally change rapidly to its natural color. During the entire treatment we have usually found the following diuretic to be retained by the stomach and answer the admirable purpose of stimulating the kidneys and increasing the quantity of urine: Turpentine, one and a half drams; sweet spirits of nitre, four drams; nitrate of potash, pure, one dram; white sugar, three drams; pulverized gum arabic, four drams; decoction uva ursi, six ounces—mix. Dose, one tablespoonful every three or four hours. We are utterly opposed to the enormous doses of quinine recommended by some physicians, believing they will result in injury by depressing the already enfeebled vital energies. We seldom ever give more than twenty or thirty grains in twenty-four hours; would much prefer to give it between 12 o'clock at night and 9 o'clock a. m. In no stage of the disease would we use or recommend blisters, having found them to fail to relieve the nausea and vomiting and greatly to increase the depression. Opium and astringents to control the so-called hemorrhage are to be avoided, but morphine may be used with excellent effect, as we have previously mentioned. Tincture of iron and elixir vitriol have been of no service, and possibly injurious in our hands during the acute stage. If the patient becomes restless, sponging the whole surface

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with hot lye, or a strong solution of bi-carbonate of soda, and afterwards anointing them thoroughly with cocoa butter, made sufficiently soft with olive oil, will add much to their comfort; also rubbing the spine with chloroform liniment and tincture of capsicum. At night, if necessary, we may give hydrate of chloral to procure a sufficient amount of sleep. Should the hiccough become very troublesome, which it frequently does, and the remedies recommended for the nausea and vomiting fail to give relief, we would not hesitate to give any of the usual anti-spasmodics that have been recommended for it. One case was almost instantly relieved with iced lemonade.

During a collapse the external application of turpentine and tincture of capsicum, and the internal administration of the same remedies, with brandy and tincture of belladonna and tincture of digitalis, or atropia, hypodermically, are our best remedies. So far, we have failed to find any treatment that would relieve the patient after complete suppression of urine had taken place. We have used large doses of calomel, and many of the vegetable cathartics and diuretics, also strychnine and electricity (the Faradic current), but death has invariably ensued. After the acute stage has passed, the liver acting well, and the skin and urine of their natural color, we may give strychnine, one grain; sulphate of quinine and sulphate of iron, each twenty grains; pulverized aloes, six grains. Mix and make twenty pills. Dose, one pill two or three times a day, after meals; or, Lugol's solution of iodine: Iodine, twenty grains; iodide of potash, forty grains; water, one ounce—mix. Dose five to ten drops, three times a day, largely diluted with water. The patient should at all times guard against constipation. When this treatment has been persevered in for several months, it most usually produces a permanent cure and prevents a return of the disease. When typhoid symptoms appear, our chief reliance is in stimulants and a nourishing diet, and a treatment of symptoms. The best and most grateful diet is fresh butter milk, iced; but almost any food may be allowed that the patient may relish.

In a subsequent communication Dr. Hogan writes:

Your letter has been received. I know nothing about the hæmatemesic form of fever you speak of. I have no recollection of ever seeing a case. In regard to the mild cases of the hæmaturic form, I have seen one case in an adult male and a number of cases in children, from two to six years of age. They had the peculiar urine and the discoloration of skin, but with very little nausea and vomiting, temperature nearly normal, and most of the time they were able to be up, and even walk about the house, and one case, of a little boy, was even playing in the yard when I went to the house to see him. The cases readily yielded to mercurials and the diuretic, and my recollection now is that I gave them some quinine, but I am not sure that it was necessary. The adult hadn't had a chill in twenty-five years, and has never had a chill since the attack. None of the children had ever had a chill.

In regard to the number of cases treated, I have kept an account of forty-

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two. The first five cases were seen in consultation, and treated with small doses of calomel, large and sometimes enormous doses of quinine, blisters, some diuretic, generally containing turpentine, tincture of iron, elixir vitriol and stimulants. All died. The remaining thirty-seven cases were treated according to the directions contained in the article I sent you, and there were three deaths since then. I think I have seen eight cases (there may have been more), with two deaths. One was an old lady, sixty-two years of age. She had been treated three days by other physicians, and died in a few hours after I saw her. The other was in a young man—a constant and hard drinker. He had amyloid degeneration of liver and kidneys. He had been sick or ailing for several months. I was called one night to see him, and found him with a very severe attack; urine very deep colored, and also the skin, nausea very distressing, but by the fourth or fifth day the urine and skin cleared, and remained so for about two weeks, when he died.

I hardly think it necessary to enter into a more full discussion of the causes of malarial diseases, but will say I fully concur with Klebs and Crudelli that the bacilli of intermittent, remittent and congestive malarial fevers are identical, and that the cases are determined by the quantity of bacilli, or to some peculiarity of constitution, or both. I still further, however, believe that no concentration of this poison, nor any peculiarity of constitution, will ever develop a case of morbus flavus.

DR. D. S. HOPPING, LETOHATCHIE, LOWNDES COUNTY.

The number of cases is 41. Of these sixteen died and twenty-five recovered. The clinical histories of some of these will be given—part of them made at the bed-side, and others from memory.

CASE No. 1.—Called August 10th, 1868, to see Capt. R., age 34; rather delicate constitution; previous health bad, having had two attacks of malarial fever since spring. Had chill again August 8, for which he took calomel, 12 grs., and other purgative pills; these purged severely, severe nausea and vomiting accompanying. He failed to take quinine, and took a chill on the morning of the 10th. I was then called; found him very anæmic and restless, pulse varying from 90 to 100, frequent desire to urinate, passing each time from 12 to 16 ounces of bloody urine; nausea constantly, and occasionally vomiting green bile; respiration sighing; deglutition difficult, from a feeling of constriction of the œsophagus; skin soft and perspiring; tongue coated and covered with tenacious mucous; mind clear but apprehensive of danger. Gave half ounce of whisky with three grains of quinine every three hours, tr. iron, 15 drops, chlor. potas., six grains, every three hours, alternating with the quinine and whisky, and flannels wrung out in hot water applied to the spine and over the region of the kidneys every five minutes.

Dr. Lampley, then of Hayneville, saw the case with me during the evening. He approved the course of treatment and urged the importance of the quinine, per orem, if admissible, if not, by the rectum, and pressed the

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importance of absolute quietude of mind and a general supporting regimen, and bromide of potas. to procure sleep.

August 11th, I remained with the patient. The great difficulty of swallowing and vomiting precluded the use of any remedy by the mouth, and the quinine was given by the rectum, and heat perseveringly applied to the spine. At 10 o'clock last night had a rigor, and at 3 o'clock, a. m., had a chill, followed by an exascerbation of all his symptoms. The urine this morning is increased in quantity and more heavily charged with blood; pulse 120; icteric hue very great; sighing respiration increased; complains of heat of chest, stomach and bowels; head hot and perspiring; had cloths wrung out in cold water freely applied to the head, chest and bowels, and though these cloths were changed every three to five minutes they were deeply colored yellow by the bile in the skin. Gave ice, ice lemonade, and whisky toddy *ad libitum*, and 15 drops spirits turpentine every three hours. Omitted quinine enemas. No improvement, fever increased, restlessness greater, urinates every two or three hours, passing half a chamber full each time, its color less bright, and evidently contains bile. Skin color of an orange. Treatment continued and the quinine by enemas to be resumed at night every three hours in five grain portions, and toddy to be given when relished.

August 12th, a. m.—Patient spent a restless, sleepless night; pulse 130 to 140; tongue dry, urinates less frequently and urine changed in appearance to a dark coffee color, containing less blood and more bile—a piece of cloth dipped in it is made yellow; thirst great; is constantly changing his position, and can find rest nowhere. Omitted the quinine and continued the turpentine. Gave him a few spoonsful of chicken soup every four hours. P. M.—Respiration sighing, fever higher, pulse 140 to 160, prostration very great, urine contains less bile and evidently improving. Continued the turpentine and resumed the quinine by enemas at night, and ordered whisky toddy or egg-nog every three or four hours.

August 13th, a. m.—The past night was one of extreme danger to the patient. Pulse too feeble and frequent to be counted: never, I think, less than 160; respiration difficult. At 10 p. m. and at 3 a. m., symptoms of depression were so great that repeated sinapisms, frictions and stimulants were necessary to prevent sinking. By the free use of stimulants this morning and perfect quiet, some refreshing sleep was obtained and his condition improved. P. M.—Urine normal, pulse 135, color of skin improved; took egg-nog and chicken soup. Continued turpentine.

August 14th.—Patient improved, pulse 120 to 130, urine natural; skin rapidly improving; takes nourishment with more relish; turpentine continued.

August 15th.—Patient continues to improve, though the pulse beats as high as 120. Omitted turpentine.

August 16th.—Convalescent.

August 21st.—Took a trip by railroad of 80 miles to a less miasmatic region.

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I omitted to mention that during the first three days his bowels were unmoved, and after that time by enemas and small doses of castor oil.

Case No. 2.—Mrs. D., aged 33, of good constitution, the mother of six children, now pregnant 6½ months. Has been suffering for several weeks with mild attacks of chill and fever. Since August 30, after a rough ride, these symptoms became more serious, when on this day, September 3, she had a violent chill of six hours duration. When I arrived, 3 o'clock, p. m., reaction was not yet established, and the pains of premature labor recurring every three to five minutes; icteric hue well marked, and sanguineous urine passed every two hours, amounting to a half chamber full at each micturition; pulse 90, full, quick and soft; restlessness great; bowels unmoved to-day. Gave 35 drops of laudanum every 45 minutes (hoping to arrest labor) and mustard sinapisms, dry heat and frictions to establish reaction. She took more than 200 drops in six hours, but they failed to arrest the labor, and she gave birth to a still born child at 10 p. m. I now gave 10 grs. chlorate of potas. in solution, tr. iron, 10 drops, and spirits turpentine, 10 drops, each every three hours, alternating.

September 4th.—Urine passed three times last night (since 10 o'clock, p. m) filling the chamber each time from one half to three parts full, and judging from its color I would suppose that in every ten parts there were of blood three parts, two of bile and five of urine; pulse 94, full and harder; respiration sighing; hot skin and great thirst; bowels moved unaided, discharges as black as gun-powder. P. M.—Fever and restlessness increased; urinated four times, less blood, more bile, quantity the same; pulse 96. Discontinued the prescription and gave 10 drops spirits turpentine every three hours and ext. hyoscyamus to procure rest, and ordered 12 grains of quinine, two grains every two hours, beginning at 12 o'clock at night. The icteric hue is greater than I ever saw—a perfect yellow.

September 5th.—Urine free of blood, but contains bile in great abundance; quantity one-third of chamber full every three hours; bowels moved by an enema, evacuations free of a dark green or black color, pulse 88; jaundice hue the same, more cheerful; took chicken soup every four hours; has been taking ice and ice lemonade *ad libitum* since the 4th. Continued turpentine and extract hyoscyamus. P. M.—Has an increase of fever, not, however, so high as on yesterday evening; has pain and tenderness over the liver. Continued treatment; had the region of the liver rubbed with chloroform and camphor linament every three hours, and resumed the use of quinine at 12 o'clock at night. The mammæ were inflamed, hard and tender; ordered them frequently rubbed with same linament and the milk freely drawn.

September 6th.—Pulse 84, skin clearer, urine nearly natural in quantity and quality, fever slight, bowels moved unaided several times, actions very bilious, tenderness and a sense of heaviness in hæpatic region; treatment continued and mustard plaster to be frequently applied over him.

September 7th.—Patient still improving, pulse 82, liver still tender; treatment continued.

September 8th.—Patient improving and gaining strength, liver still ten-

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der, and icteric hue improved but yet great; pill hydr., twenty-four grains; Dover's powders, six grains—mix, and make into three pills, and give one every three hours.

September 9th.—Patient improved; medicine acted four times; actions consistent and very dark, urine normal; liver still heavy and tender, no enlargement perceptible; color improved very slowly. The lochial discharges are as they have been, normal. Continued turpentine.

September 10th.—Patient improving slowly. Gave nitro. muriatic acid, four drops, every six hours diluted. Discontinued turpentine, and gave pill hydr., seven grains, every other night. Convalescence was tedious.

Case No. 3.—Miss S., age sixteen, stature small, irregular in her catamenial periods, attended with indigestion and debility; has suffered all the summer and fall from frequent attacks of intermittent fever. Saw her September 9th, a. m., with the following symptoms. Debilitated, respiration oppressed, skin jaundiced and perspiring, pulse 100 and feeble; had spent a restless, sleepless night; had frequent calls to relieve the bladder; bowels moved twice during the night. The returning chill hour was near; she had taken five grains of quinine; I gave her eight grains more and applied mustard to extremities. While quietly sleeping, the chill returned. By stimulants, internal and external, re-action in one hour was established, the sweating preceding the hot stage; the skin now rapidly assumed a deeper icteric hue, and urine more sanguineous, and evidently contains bile. P. M.—Pill hydr., twenty-four grains in three pills, one every four hours; sulphate quinine, fifteen grains, in four portions, one every three hours through the night. The nausea and vomiting precluded the use of tincture of iron and chlorate of potash. Emulsion of turpentine was given every four hours in ten drop doses. Ice and ice lemonade and brandy toddy are given *ad libitum*.

September 11th.—The history of this case differs little from those already given, though we have prevented a recurrence of chill on yesterday and to-day, yet the quick, feeble pulse of 135 to 140, sighing respiration, shriveled, perspiring, washer-woman skin, gives evidence of too much congestion compatible with a favorable prognosis.

September 12th.—Patient much improved; urine contains bile, and no blood; skin rapidly clearing up; pulse 112; slept well; dispnœa greatly relieved; region of liver tender on pressure. Continued turpentine in ten drop doses every four hours, and quinine, sixteen grains, daily.

September 13th.—Patient doing well; treatment continued; urine natural, but rather deficient. Treatment continued.

September 17th.—Patient has daily improved; urine normal, skin clear, tongue clean and moist, bowels moved daily, naturally, or by castor oil; pulse has daily diminished in frequency, and now 90 per minute; sleeps well and appetite improving; slight tenderness elicited by pressure over the liver; requires no special night nursing. Quinine discontinued. A supporting diet as from the first, with toddy and ice lemonade, continued *ad libitum*.

September 18th.—Pulse 90, too hard; sleeps rather too much; intellect

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and expression rather dull; low spirited and fretful; slight epistaxsis; catamenia have appeared; ate without my knowledge a scrambled egg.

September 19.—Called at 2 o'clock, a. m., in haste; found my patient sadly changed; the most restless being I ever saw; two vigilant nurses cannot keep her covered in bed—subsultus of every limb; pulse 130; tongue dry; catamenia suppressed; bowels unmoved in 36 hours. I was at a loss whether to attribute this change to the suppression of menstruation, to failure of the kidneys to eliminate urea, or to the presence of the undigested egg and loaded lower bowel. My treatment, therefore, was to relieve all of these indications. A warm emolient clyster was given and feet emersed in a hot mustard pediluvium. The enema brought a free black (as tar) passage; urine also passed freely, but no relief. Had the enema repeated; more black, consistent fæces and more urine; no relief. Gave gum camphor and paregoric, and repeated mustard pediluvia; no relief. Cups to sacrum and fly blisters to inside of limbs, and spirits nitre and extract hyoscyamus in full doses every three-fourths of an hour brought no relief. The pediluvia were hourly repeated and gave only momentary relief. Camphor julip and one third grain of morphine gave some quiet repose, but she grew worse. 6 P. M.—Pulse less frequent, but hard and full; unconscious; respiration laborious; reapplied scarificator and cups to sacrum and temples; saw the perspiration start; gave it up as the last hope of my patient; she died at three o'clock, a. m., of the 20th.

Case No. 4.—Called to L. G., October 2d, 10 o'clock, p. m.; age 24; stout, athletic young man; has suffered for eighteen months with frequent attacks of chill and fever. Present symptoms: just reacting from a severe ague; pulse full, quick and 100 per minute; nausea and occasional vomiting; skin of an orange yellow and rapidly becoming more so; had urinated twice before I arrived, and soon again passed about 30 ounces of bloody urine; very nervous and weak. Gave hydr. chlor. mite., 12 grains, divided in three portions, one every four hours; spirits turpentine, 10 drops every four hours; sulph. quinine, 16 grains divided in four portions, every 2½ hours when the calomel has acted; mustard sinapisms to stomach, bowels and spine when required for the relief of nausea and vomiting. He urinated again during the afternoon; urine again heavily loaded with blood; repeated efforts after brought no urine, and upon examining the bladder found it empty; nausea and vomiting now became excessive; bowels freely moved, and as the discharges were almost entirely of bile I made no effort to restrain them.

October 3d.—No improvement; no urine; nausea and vomiting great; pain in stomach at every effort to vomit severe. My efforts were directed almost entirely to relieve the vomiting, but nothing gave any relief. P. M.—Cramps in the stomach at each effort to vomit were dreadful. Called Dr. F. McLean to see the case with me. We failed even to palliate his suffering. Pulse up to this time had been full and strong, varying from 112 to 120, now grew more frequent and weaker.

October 4th.—No urine; vomiting excessive and cramps agonizing. Gave brandy and carb. ammonia; no relief; vomiting gradually became easier and pulse weaker. He died at 2 o'clock, p. m. Cadaver a perfect yellow; passed after death about a pint of bloody urine.

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CASE No. 5.—Called to Miss A. T., October 19, 1868; age 16. Previous health not good; had chills through the summer, fall and winter of 1867 until March, 1868; again this fall had chills, followed by an attack of bilious remittent fever in September. Has had dysmenorrhœa for the past twelve months. Present symptoms: reaction high after hard ague; pulse 112; icteric hue characteristic; has had four calls to empty the bladder in the last six hours (since chill), passing each time about 24 ounces of bloody urine; complains of pains in the region of the bladder, aggravated when passing urine. Catamenial period past due. The case progressed favorably under the quinine, turpentine and tr. iron treatment; the urine entirely clear, skin clear; pulse greatly reduced in frequency, but yet too hard. When I was re-called (Oct. 26th), I found my patient complaining of pain over the kidneys; pressure in that region elicited great pain; pulse 120, full and hard; nausea and vomiting. I put a blister over each kidney and gave a dose of castor oil; dry cups to relieve nausea. The blister drew well and greatly relieved the patient. The bowels were moved naturally or by castor oil daily. She convalesced slowly.

The clinical histories of two mild cases will now be given. Case No. 6, October 2, 7 p. m., '82.—Eddie B. S., a pretty little girl of seven years; blue eyes, fair compexion, lithe and active; had several attacks of chills during the last three months, which were controlled by her parents without any special prodroma; was observed two or three hours in advance of expected chill to become restless, nervous, fretful, pale, pulse very quick and feeble; respiration sighing; her urgent calls to urinate caused her urine to be examined, and was found to be decidedly tinged with blood. I was immediately called, and found the above symptoms, with icteric hue, tenderness over region of kidneys and bladder, and pulse 130 to 134. Nausea was present, but was soon relieved by vomiting freely of bilious matter. Bowels constipated The quality of the pulse and other symptoms denoted what I had heretofore learned to be the chill stage, and reaction was to be sought. I prescribed chloroform mixture, viz: gum camphor, two grains; sugar, two drams; chloroform, one dram; triturate well the sugar, chloroform and camphor, and add water sufficient to fill an ounce vial. Of this I gave a teaspoonful and repeated every twenty minutes. I had at the same time applied to extremities of the spine and stomach mustard plasters and mustard pediluvia used. These external stimulants were twice renewed and in three hours a full reaction was obtained. This assured, and stomach quiet I gave her ten grains of calomel, and ordered after ten hours its action to be hastened by enemas of soapsuds, oil and turpentine, and gave 20 grs. quinine every two hours so as to quininize my patient before next chill hour. The reaction was good, and fever high, pulse rate from 130 to 136, urine less frequent and less tinged with blood during the night. Oct. 3, a. m. Pulse ranged through the day 124 to 128, retains the quinine and skin improved. P. M.—Much the same, but vomits the quinine; then used it by inunction. No action from bowels, enemas also failed to induce one. I failed to get bowels to act and to quininize the patient, and at 6 p. m. a clearly expressed chill manifested by coolness of extremities, nausea, pros-

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tration, pulse small, frequent and 130, more urgent desire to urinate, and increased jaundiced hue, urine more highly colored with blood, pain and tenderness over kidneys and bladder complained of, sighing, respiration and restlessness very great, and vomited a few times. I plied stimulants, internal and external, for all they were worth, and to my great joy succeeded again in bringing up a full reaction. I gave again ten grains of calomel and quinine, *per orem, per rectum*, and by inunction, (about fourteen grains by the first, twenty-four grains by the second and thirty to forty by the third). She passed a bad night, resting little; pulse 136. Oct. 4. Pulse 130 to 136, skin and urine much the same. P. M.—Pulse 124, urine and skin improved, treatment pressed, and bowels, assisted by enemas, have acted well, and before chill hour the patient complains greatly of the effect of quinine, and she is indeed well under its influence. As a precaution against the anticipated paroxysm, I kept up flying sinapisms, and had the satisfaction to escape it. Oct. 5th. Patient improved in every respect; now takes milk punch, which she had heretofore loathed. Continued quinine, two grains every two hours. Pulse ranged through the day from 112 to 120, bowels continued to act well, dark, consistent discharges; anticipated the expected chill hour by flying sinapisms; urine and skin entirely clear; no chill. Oct. 6th. Patient doing well. Knowing the great disposition of paroxysm to return, I continued the use of quinine, about eight grains daily, and the flying plasters for three days, as the hour approached. Oct. 7th. Patient convalescing finely. Oct. 8th. Pulse 94; improving. P. M.—From imprudence in diet, had a terrible attack of colic. This was promptly relieved by teaspoonful doses of the chloroform mixture, repeated every fifteen minutes. Oct. 9th. Did well until morning, when she had another colic, which was again promptly relieved by the same mixture, but was only permanently cured by a dose (six grains) of calomel. These attacks of colic were so frequent in many cases, and the treatment given so successful, that I deem it worthy of mention here. Attention is called to the paroxysmal nature of this case.

Case No. 7.—The next case, though very distressing and obstinate, is classed a mild one, for the reason that it, like the sixth, preserved its identity as an intermittent. C. F. G., a young man of 28, of the best imaginable physique, had repeated attacks of chills for nine to twelve months. He had had two brothers to die of this disease, and I had advised him to seek a less malarial clime or he would have an attack. My predictions proved true. The rigor-ague came and shook the bed and every muscle of his stalwart frame. I was immediately called, August 16, p. m., 1882. At 4 o'clock p. m. he had not reacted, pulse small, frequent and varying from 120 to 130, bowels obstinately constipated, nausea great and vomiting incessantly, and complains of pain over bladder, urine deeply colored with blood, skin golden. The same treatment as that used in the sixth was, if possible, used with greater energy for four or five hours before a pulse assuring me of a good reaction had taken place. The pulse rate was now stronger and less frequent, and beat 110 to 116. I gave twenty grains of calomel, and ordered ten more in three hours. Stomach would not tolerate

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quinine; gave it by enemas, ten grains every two hours, and used it freely by inunction. We feared a portion of the calomel had been vomited, therefore, gave ten grains more. I remained with the patient; he had a restless, sleepless night. August 17th. No improvement, urine highly colored, skin very yellow, pulse ranged from 120 to 130, stomach's condition apparently better. I gave quinine in pills (10 grains), but it was very soon vomited. P. M.—Much the same, bowels do not act; gave enemas, as in the first, but no action. Knowing the great importance of getting the bowels well moved, I gave a dose of oil, but this was immediately vomited. I began in good time stimulants, both internal and external, to ward off the expected paroxysm. I failed to do this. It came, and we rarely meet with more distressing sickness for four hours. All of the characteristic symptoms were aggravated, and this, his second night, was extremely discouraging. Pulse after reaction remained above 130. When reaction had been restored we gave twenty grains more of calomel, and ordered enemas to be given in eight hours to hasten the action of the bowels; quinine by inunction and *per rectum* continued. August 18. Patient weak, no change in color of urine or skin, can take but very little milk punch, pulse 130. P. M.—Bowels are moving well, discharges intensely black, thick and offensive. He does not yet feel the quinine. The chill hour came, and while up at stool he felt its approach. It did come, but lasted but a few moments, but long enough to aggravate perceptibly the discoloration of urine and skin and the nausea. Fever ranged pretty high for four hours, pulse 124 to 128. He got some sleep, and when morning came he was resting and perspiring. August 19th. Stomach quiet, takes milk punch, urinates less and is less discolored, skin much the same, pulse 108, bowels act freely. P. M.—Takes more milk punch. Quinine has been borne by the mouth since yesterday, and has retained not less than thirty-six grains, and continued by inunction. Mustard sinapisms are again repeated as the chill hour approaches, and the hour passes safely without the paroxysm. August 20th. Patient very much better, pulse 90 to 96, takes nourishment in great moderation, but is willing to take more. August 21st. Patient does well, quinine continued, tongue is as it has been, broad and deeply furred, urine clear and skin better. August 21st. Improving. P. M.—Had a bad colic; took the chloroform mixture and found relief; quinine continued. August 22d. Quinine, ten grains given; pulse 90. P. M.—Had another attack of colic; found relief from the same treatment. Gave of calomel four grains, and blue mass 10 grains, made into pill. This acted well, and he took nourishment with more relish. August 23d and 24th. Gave ten grains of quinine each day; convalescence was now assured; but had another attack of colic from imprudence in diet.

This case, like the sixth, maintained its periodicity. The tongues of each of these cases were broad, moist and covered with a deep fur, and colored green by the bilious vomiting. I will describe a graver class of cases.

Case No. 9.—Miss W., age 22, had chills for many months, the last on the 9th of November, 1868, proving unusually severe. I was called; found the characteristic symptoms present; pulse too feeble and frequent

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to be counted; delirious; disposed to sleep, which she would have done but for the persistent nausea and vomiting; sighing respiration; skin of a greenish-yellow hue; urine loaded heavily with blood, which was sometimes passed in bed. I used stimulants internally and externally for all they were worth for twelve hours. They produced no lasting impression; urination was soon arrested, and death occurred twelve hours after seeing her.

Case No. 10.—Mr. J., age 48, had chills for many months; had one of greater severity on the 19th of November, and his family seeing the bloody urine sent for me. His symptoms were almost identical with those of Miss W.; pulse too feeble and indistinct to be counted; delirious; urine soon suppressed; stomach too irritable to tolerate anything; stimulants made no impression, and coma soon closed the scene; he died in eighteen hours after onset of chill.

The clinical histories herein given illustrate three classes of cases, differing only in degree, and are thus selected to demonstrate the truth of the periodic character of the disease, so long disputed by the many, and the assertion that in the graver cases their periodicity for the time is broken up and partial reactions only take place. The cases numbered 6 and 7, show plainly their periodic character in their openly expressed chill, fever and sweating stages, and ready control by quinine. Case No. 1 fairly illustrates a graver form of disease, in which its periodicity was, for the time, lost, and partial reactions only were, for many days, observed. This class constitute by far a majority of the cases met with, and require for their successful management complete cinchonism, and the most watchful care and support. Cases Nos. 9 and 10 are of the most malignant type, and illustrate a class of cases, in my judgment, beyond the possibility of cure. A condition in which the vital forces are either overwhelmed by the virulence of the morbific agent, or, secondarily, through congestion; and, in some cases, by the retention in the blood of some of the constituents of the bile and serum constituting a veritable toxæmia.

Pathology.—The extreme feebleness of heart action, prostration, coolness of extremities, nausea and vomiting, sighing respiration and evident periodicity, point clearly to the presence of congestion as the condition and cause of these pathological manifestations. That we may properly estimate the influence of such a weighty disturbing factor, we should equally estimate the importance of the many physiological functions that are so profoundly impressed. To do this, we should take in view the great osmotic circulation, in a state of health, going on between the fluid contents of the bowels and the blood in twenty-four hours, estimated by Professor Parks to be—"of the gastric juices, 23 imperial pints; pancreas, 12 pints; salivary, 3½ pints; of bile, 2½ pints." The amount given out by the intestinal mucous membrane, he says, must be enormous. Altogether, the amount of fluid infused into the alimentary canal in twenty-four hours amounts to more than the whole amount of blood in the body. The effect of this continual out-flowing is supposed to be to aid metamorphosis; the same substances, more or less changed, seems to be thrown out and re-absorbed, until it is either adapted for repair of tissue or has become effete. Now,

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should this great physiological osmotic interchange of fluids, constituting a circulation never dreamed of in Harvey's philosophy, be interrupted, perverted or assisted by congestion, or other cause, who can appreciate the true condition and results. All physiological metamorphoses are here at an end. We have the vital nerve-energizing forces that co-ordinate the osmotic circulations of the liver, of the stomach, of the bowels and pancreas reversed—turned backwards—and only chaos remains, with the reflection that pathological processes are no less fearfully and wonderfully performed than the physiological. We have a condition of secretions and perversion of function, with all its attendant evils, not very unlike that seen in strangulation of the intestines. While we feel our utter impotency to properly appreciate and interpret the great and complex results of such suspended vital forces, we are, nevertheless, convinced that the first great disturbing element is the dethronement, the prostration, the paralysis of the nerve-centers presiding over the secreting organs, resulting in congestion of all the glandular organs of the alimentary canal and capillaries of the entire body, and their function arrested or perverted. And chief among these glandular organs, whose function is for the time suspended, is the liver; its vital purposes in assimulation, digestion and nutrition, are thwarted; its function of eliminating the bile from the blood is perverted and fails to supply the natural stimulant for the peristaltic movement of the bowels. And nature, ever ready to compensate, endeavors to induce the kidneys to vicariously discharge the function of the liver. In this effort it is overwhelmed by irritation, engorgement and rupture of its gland-tissue, and blood, bile and urine are discharged.

We have no reason to believe that the kidneys are primarily implicated in this disease, but is secondarily engorged and stimulated to overwork, and is disabled in its functions by organic lesion. Of the pathological condition of the blood and other fluids it is not my purpose to speak, for they are results—links in the chain of the conditions present. For a more elaborate notice of the author's views of the pathology of this disease, those interested are referred to the transactions of the Medical Association of the State of Alabama—annual session 1870.

Modes of Death.—Of the sixteen deaths, five resulted from the intensity of the malarial toxæmic impression on the brain and other nerve centers, inducing paralysis of the heart. All of these were delirious, and heart action very feeble; urine suppressed, and died within thirty-six hours. Two other deaths, females, died when apparently convalescing, all of the characteristic symptoms having passed off. One of these, a young lady of eighteen, had her menses to appear, and from some unknown cause to disappear; the shock proved too great; she died in convulsions, possibly uræmic. The other, a lady of forty-two, had convalesced slowly for three weeks, and although she had a good appetite her assimulative organs seemed weak; her bowels began to act more freely; actions apparently bilious, but, more critically examined, found to be grumous blood; the tone of her stomach enabled her to hold on to life with great tenacity, but the

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inevitable came in the fourth week from exhaustion. This was the only case of hemorrhage of the bowels.

I had one case of epistaxis on the fourth or fifth day of attack; this was permanently relieved by stimulants. Four others died while the characteristic symptoms were present and urine suppressed, from the second to the sixth day—these died from uræmic poisoning and prostration. The others died after the skin and urine had assumed their natural color, and we had good reason to hope for a favorable issue, but a continued type of fever set in and prostration and death the result. Two of these in the second week, and three in the third week. The question of blood in the urine, so persistently disputed by some physicians many years ago, was soon settled in my mind, in my third case, by the presence of a coagula in the meatus urinarius. The disease prevails at that season when the malarial poison is most potent, to-wit: from August to February. Though situated in the cretaceous belt, yet we have a variety of soils; chief of these is the prairie, woodland and bald, and the post-oak. Of the forty-one cases treated by myself, and fourteen cases in my immediate neighborhood, and four others seen in consultation, all, with perhaps one or two exceptions, occurred in the post-oak sections, the soil of which may be described as loose, sandy loam, with a clay sub-soil; this surface soil varying from six to thirty-six inches deep. The conditions most favorable for the generation of malaria, are here in abundance, viz: decaying vegetable matter in this loamy surface soil, and a clay sub-soil so tenacious and retentive of moisture, exposed to the sun's rays.

Type.—In this type it is essentially an intermittent fever in its inception, and general progress. Should the blood become poisoned by its retention of the excrementitious elements of the urine and bile by lesions of either the kidneys or liver, then it will assume a remittent or continued type—more probably the former. Such was the case of Mrs. D., case No. 2, who had a rather protracted convalescence with a remittent form of fever, and whose recovery was finally hastened by alterative doses of blue mass, followed by tonic doses of nitro muriatic acid.

Hemorrhage and Jaundice.—These always appear with the chill that initiates the disease, and in mild cases come and go with it. In severer cases they may fade during reactions, but do not disappear, and are intensified with every recurring chill or partial reaction. In this, the jaundice is not so much contracted by the chill. Indeed, after the periodic character of the disease has subsided, it may, and does remain for days and for weeks.

The Bowels.—These are almost invariably badly constipated. The kidneys soon become engorged, and to relieve the liver by compensative vicarious action, became irritated and stimulated to over work, by which lesions are frequently made of that organ.

Heart and Lungs.—The feeble heart impulse and sighing respiration, indicate that each of these vital regions participates in the congestion, induced by the paralyzing influence of the *materies morbi* on the nerve

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centers. The brain, by the "idle comments it doth make, shows that the life of all the blood is touched corruptibly."

Duration of this disease may be compared with other congestive intermittents. If no injury has been done any vital organ, and treatment prompt and energetic, then we may hope for a convalescence in five to nine days. The anæmic condition of the patient, even in those prompt and energetically treated, will require good nursing and great circumspection in diet. Relapses are frequent on the 7th, 14th, and 21st days. Should there be lesions of vital organs, no estimate can be given of the duration of the disease. This is controlled by extent of injury, and the good or ill surroundings and treatment of the patient.

Differential symptoms of malarial hæmaturic fever and yellow fever, are—1st. The cause of the former is, without doubt, malaria. Yellow fever recognizes no such cause. While malaria may furnish conditions favorable for its propagation, it cannot originate a case. 2d. One attack of yellow fever secures immunity against other attacks, while in malarial hæmaturic fever, no such exemption exists. 3d. Yellow fever is portable, and both contagious and infectious. 4th. Malarial hæmaturic fever is controllable by quinine, and exerts no such influence over yellow fever. 5th. The latter is neither infectious or contagious. 6th. The fever of the latter is intermittent, while that of yellow fever last for two, three or four days. 7th. The hemorrhage of yellow fever is from the stomach, and from the kidneys in malarial hemorrhagic fever. 8th. The yellow skin and hemorrhage of the malarial hemorrhagic fever begin with the disease, while that of yellow fever comes generally much later. 9th. The severe pain in the back and limbs, and injection of conjunctivæ, are peculiar to yellow fever. 10th. Yellow fever will not propagate above a certain altitude. Altitude has no effect on malarial hemorrhagic fever. 11th. Rapid dissolution after death in yellow fever does not obtain in malarial hemorrhagic fever.

Treatment.—This has already been indicated in the clinical histories given. To prevent the recurring paroxysm, should be our first, our chief concern. And to do this, we should permit nothing to interfere with the free, heroic use of quinine to full cinchonism. The stomach, so intolerant to the presence of anything, should be preserved for the retention of quinine. Should we fail in this, our efforts to introduce it by rectum, endermically and hypodermically, must be redoubled. The only exception to this procedure is in the very mild cases, such as Nos. 6 and 7, when the stomach is so little irritated that calomel is tolerated. And when thus given a decided dose, sixteen to twenty grains, should be administered. This accomplished and good actions obtained, and quinine freely given, a recovery may safely be anticipated. But these are exceptional cases. When the nausea and vomiting are already constantly present, I have, as I think, greatly aggravated my cases by giving calomel. My doses were too small, or perhaps ill-timed. With the views I now entertain, small doses are puerile and trifling. It should be given, if given at all, for its revulsive effect upon the duodenum and liver. When thus given and tolerated, we have no more potent agent in relieving congestion and restoring the equili-

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brium of the circulation. There is yet another remedy, to which I feel that I have not attached sufficient importance, for the relief of congestion, viz: the prolonged hot bath. Before the virtues of chloroform were known to me, for relieving congestion, it was my main stay. And for the more common forms of congestion (malarial) this procedure, with chloroform, is my chief reliance. There are many cases of this disease, whose condition is so extreme when called, that you fear death before the great malarial antidote can be given and felt. In such cases the prolonged hot bath, with temperature kept up by the addition of hot water, the patient kept in bath for hours, or until reaction is an accomplished fact. Had such a bath been given in case No. 4, I feel that the result might have been different. In the management of such cases, we would emphasize the importance of watching the reactions; see that they are full, complete and maintained by the free use of stimulants, both external and internal. Of the most useful of these, I would name the hot bath prolonged, flying mustard sinapisms, the hot mustard pediluvia, chloroform, chloroform and camphor (mixed) and brandy. These should be pressed until assurance doubly sure is manifest that reaction as a fact, an indubitable fact, for I cannot lay too much stress upon the fact, that the reactions are too frequently only partial and prone to lapse again into chill. When reactions are an accomplished fact, your patient has made a long stride towards recovery, or to a condition in which remedial agents can be used with benefit. It is then that the chaotic pathological processes of the secreting organs are supplanted by the physiological, and order reigns. It is then that the nausea and vomiting, which bears an exact relation to the amount of congestion, has been controlled. And it is then, and not before, that a large dose of calomel—large enough to insure its action—can and should be given with hope of great benefit. But it has not been my good fortune, in a large majority of cases treated, to thus control and maintain such reactions. And I have been forced to press the quinine to cinchonism if possible—if not by the mouth, by rectum and endermically. It is only in the milder form of cases, when the vital forces were sufficient, to ensure reaction, or in cases more grave in which I was able to procure so favorable a condition that calomel, that potent drug, has been so potential for good.

I think it not inappropriate to mention that my neighbor, Dr. L. W. Davis, treated 13 cases in one family, occurring during five years, some of the patients having three and four attacks, and one of the boys had seven. All of these he treated with full doses of calomel, followed by quinine. In the seventh attack in one of the boys, Dr. D. being absent, I treated with calomel and quinine pressed to cinchonism. In this, and as I learn in the other cases, reactions were well established. I have observed a great proneness to malarial hæmaturia in some families, and that in these, attacks have proved more amenable to treatment. Of special remedies, I have not tried atropia sufficiently to give an opinion.

Opiates.—When suppression is apprehended, as indeed it may be in all cases, their administration should be extremely guarded, from their known aptitude in facilitating that condition. Their administration must be con-

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fined to a very few exceptional cases. As in case No. 2, I gave 200 drops of laudanum in six hours, hoping to arrest a premature labor. It failed to do this, as I now know ought to have been expected. And on the other hand it had no bad effect on the secreting glands of kidneys or alimentary organs. On the contrary, it seemed to relieve the congestion and unlock the engorged glandular system, and a free and beneficial catharsis took place.

TURPENTINE.—There are indications for the use of this drug, but not so highly prized as formerly. It is too apt to interfere with the toleration of the stomach for quinine. After the force of the disease is broken, the skin and urine assumed a natural color and the fever abated, and particularly in those cases that could not tolerate calomel in the beginning of treatment, to emulge the liver, there will come a great disposition to relapse on the 7th, 14th and 21st days, if not into chill, by a fever, and will require a mild mercurial cathartic to relieve the secretions. Again, when many patients are overjoyed at the bright prospect of a speedy recovery, will over-tax their stomachs, and an agonizing colic result. To relieve this, the chloroform and camphor mixture proves most efficient, indeed, has never failed when given as in Case No. 6, every 15 to 20 minutes.

DR. J. C. HOUSTON, BELMONT, SUMTER COUNTY.

I have just received your circular letter asking for a report of cases of hemorrhagic malarial fever. I have not kept notes of my cases, and as they extend from 1867 to 1883, I am afraid my report of them will be of little service to you.

CASE No. 1.—Male, aged about 35 years, I saw in consultation with Dr. Darby Henagan, of Epes' Station, in this county. Patient was an athletic man, overseer, living then six miles northwest of Livingston, Ala. When I entered the room he was lying prone, vomiting a grass-green liquid matter, ejecting it about 18 inches high, without raising his head, very much prostrated; was very yellow. The night glass was over half full of what appeared to me, then, pure blood; tongue coated fully with a dirty, white fur, flabby; pulse high—I don't recollect the rate; bathed in perspiration which stained the pillow for several inches from his head. He had been under Dr. Henagan's treatment for some days for intermittent fever, which is as much as I recollect of the history of the case. The vomiting, in this case, was the prominent symptom, to my mind, for it was almost incessant; although the whole case was new to me. I had never seen or heard of anything like it. He had had quinine largely to arrest chills. We tried to ptyalize him, but failed, as nothing would stay in his stomach. He died in about 36 hours.

CASE No. 2.—Male, aged about 55; weight 300 lbs. Had a chill and became as yellow as a pumpkin; passed bloody urine; was so restless he could be scarcely kept in bed; no vomiting; gave 10 grains calomel at once and two 30 grain doses quinine four hours apart, beginning eight hours before he looked for next chill. Had no other chill and got well. May have had chills before, but not enough to reduce him much.

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Case No. 3.—Female, aged 24 years, married; miscarried twins; in ten days had a chill; passed bloody urine at the end of chill; became very yellow; had a high fever which, together with the yellowness, continued about two weeks; gave quinine for two days for its antipyretic effect. Had no other chill and got well.

These three cases occurred in the fall of 1867.

Case No. 4.—A negro man, black, about 25 years of age, living in the extreme northern portion of Sumter county, in the fall of 1870, had a chill, passed bloody urine, had a high fever. I was sent for and got there in time to see him have the second chill. About the end of chill he voided about a quart of bloody urine; had a high fever again; no vomiting. He got three grain doses of calomel two hours apart, till six doses were taken, and two twenty grain doses quinine four hours apart, beginning eight hours before the expected chill. Had no other chill and got well.

Case No. 5.—Female, widow, aged 19 years, living in north Sumter, in apparent good health. Had a chill in the fall of 1872; passed bloody urine at end of the chill; turned yellow; fever high; very restless; nausea extreme; could retain no medicine, but no hæmatemesis. Fever went off; she had another chill almost immediately, followed by a high fever, restlessness, and nausea. Died in 12 hours. This was her fifth attack of hemorrhagic malarial fever.

Case No. 6.—Male, aged about 65 years, living near Livingston. Had two or three so-called yellow chills before I saw him in the winter of 1874. He had a cold, clammy surface, pulse rapid, compressible, weak, low muttering delirium, urinary bladder empty, urine suppressed till time of death, which occurred in about 24 hours. Skin dusky yellow. I was told he had taken quinine largely. No hæmatemesis.

Case No. 7.—Male, aged about 38 years; had a chill during the fall of 1875, passed bloody urine, had a high fever for 12 hours, during which restlessness was extreme, and, for most of the time, there was a horrible colic, vomiting severe, but no blood with it, skin yellow. At end of fever he was put on large doses of quinine, when the case passed out of my hands. I do not recollect whether he had another chill. He got well. Had no recent chills before this one that I know of.

Case No. 8.—Male, aged 35 years; had a chill August 8th, 1878, passed bloody urine at end of chill, fever rising to 104 Fah. at its greatest height; fever intermitted at night. On the morning of the 9th had another chill, although he had taken 60 grains of quinine; skin became very yellow, and kept yellow, diminishing towards the last for thirty days, during which time he had a continued fever. In this case there was constant nausea and much vomiting; matter vomited, at first, of a grass-green color, later, of a coffee-grounds appearance; severe colic persisted throughout nearly the whole attack; had had no chills before recently, though this was his second attack of hemorrhagic malarial fever; the first several years before.

Case No. 9.—Female, aged nine years; had a chill in the fall of 1880, passed bloody urine, followed by high fever and yellow skin. No vomiting

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when the fever intermitted; took 15 grain doses of quinine at intervals of four hours until three doses were taken, and got well.

CASE No. 10.—Male aged 48 years; had a chill September 11th, 1883, passed bloody urine, had fever following for 12 hours, took three 20 grain doses of quinine, but had another chill on the 13th with bloody urine; fever till noon the 14th; took 20 grain doses of quinine until the stomach would no longer tolerate it; had another chill on the 15th and died on the 17th. No hæmatemesis. In this case there was suppression of urine from noon the 14th, which continued until death. Had been having chills frequently for several years.

CASE No. 11.—Male, aged 20 years; had a chill September 23d, 1883, passed bloody urine, fever 104 Fah. at its highest point; intermitted on the 24th; took 20 grain doses quinine; had another chill on the 25th at daylight; at 3 o'clock, p. m., fever 104, when he suddenly and unexpectedly died, with probably heart clot. There was great nausea and considerable vomiting, but no hæmatemesis; had chills for several years before.

CASE No. 12.—Male, aged 20 years; had a chill October 24th, 1883, passed bloody urine, fever rose to 104° Fah.; intermitted on the 25th; took three 20 grain doses of quinine; had another chill on the 26th; temperature rose to the same height; nausea extreme and considerable vomiting; no blood with it; skin but slightly yellow; had chills for several years before but got well.

In all these cases, save case No. 3, the urine lost its bloody character about the end of each fever to return with the next chill. In the excepted case bloody urine continued for several days, but was probably due to another cause than the hemorrhagic fever. I have never seen a case of yellow fever, so don't give the differential diagnosis.

JACOB HUGGINS, M. D., NEWBERN, HALE COUNTY.

So much has been written in recent years on hemorrhagic malarial fever, that it is almost impossible to offer anything new, original or instructive in regard to it. When my friend, Dr. T. C. Osborne, about sixteen years ago, wrote his valued and interesting article on this disease, which he called "malarial cachæmia," it was generally believed to be a new disease, and limited in its geographical habitat to the Southern States. It was certainly unknown in this locality (Hale county), prior to 1867 or 1868. The fallacy of the idea of its being a new disease was soon made apparent by one or two articles from the erudite pen of Dr. J. C. Faget, of New Orleans, which were published in the New Orleans Medical and Surgical Journal during the years 1869-70. In these articles Dr. Faget reproduced, in part, an article published by him in 1859. In these interesting and instructive monographs, he described the disease under its several forms, viz: Bilious hæmaturic, mucous hæmatemesic and hemorrhagic paludal fever. From him we learn that the disease had been known to physicians of Madagascar, Cayenne and the West Indies for many years. More recently (1874), a work describing the disease under the name "Melanuric Bilious Fever," was written and published in France by M. Beranger-Ferand, a distinguished

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naval surgeon. Parts of this work, bearing on the history and treatment of the disease, was translated by Capt. J. W. A. Wright, assisted by Dr. W. C. Avery, both of Hale county. By this surgeon it is described as "a pyrexia of variable type (intermittent, remittent, or semi-continued), characterized, 1st, by greenish bilious vomitings, abundant and persistent; 2d, by a jaundiced color of the skin and all the tissues; and 3d, by a peculiar brown or blackish tint of the urine." In regard to the nomenclature of the disease, this surgeon says that "hæmaturic seemed to be less happy than melanuric, because it involved the idea of the presence of blood in the urine, the name melanuric implying only the idea of black urine, and prejudging in no respect the composition of the vesical fluid." This writer asserts that the disease prevails extensively on the west coast of Africa; that it was of a definite type, and that it has been, in no respect, influenced by the presence of yellow fever. From him we also learn that recent settlers were more liable to contract the disease than natives or acclimated persons. That residents of one year were comparatively exempt, but those of the second, third and fourth years were the ones who suffered most, and residents of the fifth year were again comparatively exempt. The chances of attack are given in the following ratio:

1st year	5.4 per 100.	4th year	20.0 per 100.
2d year	22.5 per 100.	5th year	4.8 per 100.
3d year	42.5 per 100.		

"This table," says M. Beranger-Ferand, "is in itself, perhaps, the most unanswerable proof that one can advance in the question of its differential diagnosis, when compared with yellow fever."

Thus we see that the disease, now generally known as hemorrhagic malarial fever, has been known and recorded by physicians many years prior to the year 1867. The first case that came under my own observation was in the year 1868, and from that date to the year 1881 I have met with seventeen cases in my own practice, and have been called in consultation to two other cases occurring in the practice of professional friends, making a total of nineteen cases. Of the seventeen cases met with in my own practice, five were intermittent and twelve remittent. Four of the intermittent cases were quotidian and one of the double quotidian variety. Of the seventeen cases, four died, three of the fatal cases being of the remittent and one of the intermittent type. One of the seventeen cases was a negro, the balance white. Five were females, twelve were males. The youngest case was about 7 years of age, the eldest was 61 years old. Four cases were under 12, five from 16 to 22, four from 25 to 38, and three from 45 to 61 years of age. None of the cases occurred *de novo* in previously healthy persons, but every one, so far as my memory serves me, occurred in persons who had previously suffered with some form of malarial fever, and generally of the intermittent type, usually known as chills and fever. The disease was, therefore, "engrafted on a pre-existing malarial cachexia." The duration of the attack was from three to eight days. Of the fatal cases, one died on the third day, two on the seventh and one on the eighth day. The two cases I saw in consultation were children, ages three and six years. Both

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died, one on the second and one on the fifth. The one was intermittent, the other malignant remittent.

In regard to the etiology of hemorrhagic malarial fever, I will simply say that my views are in accord with most writers on the subject. I believe the disease owes its origin to a depraved condition of the blood from exposure to malarial poison. The circulatory system first becoming saturated with the miasm, the blood becomes vitiated, or so much deteriorated as a pabulum for the different organs, that their functions are perverted, or so imperfectly carried on, that disease, with its various phenomena, is the inevitable result. The deleterious effects of malaria on this fluid is soon made apparent by those derangements of secretion and excretion which always follow, as a necessary consequence, any sort of blood deterioration. The liver, the barometer, so to speak, of the animal organism, so sensitive in its nature, and so easily deranged or disturbed by abnormal agencies, is, perhaps, one of the first organs affected. This is evidenced by the yellow hue of the skin, one of the pathognomonic symptoms of the disease, a symptom so characteristic that the disease is vulgarly known as the "yellow disease." Says Prof. Bemiss, in an interesting lecture on the subject, "the very rapid diffusion of this color indicates that it is not due simply to excessive secretion of bile, but either to its arrested consumption (oxidation) in the system, or to its obstructed discharge from the liver. Arrested consumption affords the least assailable explanation of this phenomenon, for when the chemistry of the human system is greatly deranged, either by sudden perversion, as in excessive fright and from the bites of venomous reptiles, or by the slower process of depravation, as in pyæmia or chronic malarial toxæmia, bile accumulates in the blood, and its consumption or oxidation ceases."

The next organs prominently affected are the kidneys. This is not surprising, when we consider their function, and the important work assigned to them in the animal economy. They are the organic sentinels, as it were, whose duty, aside from their special function, is to ward off all attacks from deleterious agencies or poisons that might, perchance, find their way into the system, and to eliminate them, if possible, from the circulation. The blood being poisoned with malaria and deluged, so to speak, with bile, the kidneys attempt the almost herculean task of throwing off these vitiating agencies. The consequence is congestion of these organs from overwork and irritation. The capillaries becoming distended, rupture of their coats take place, and hæmaturia follows as a natural result.

Another symptom frequently met with in this disease is nausea, and often of a most persistent character. This, I believe, is generally due to sympathy with its neighboring organ, the liver. Being in close proximity, and as we have previously observed, being greatly irritated or congested, the stomach naturally sympathizes with it, perhaps through the sympathetic system of nerves. In some cases the stomach, I dare say, is itself congested early in the attack. The nausea also is sometimes protracted by the regurgitation of bile in the effort of vomiting.

Another symptom that adds greatly to the patient's discomfort, and one

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that I have met with in almost every case, is excessive dryness of the skin, with a complete arrest of the perspiratory process. The stoppage of this secretion, I believe, contributes no little to the mortality attending this disease. For the skin, besides its great function of regulating the heat of the body, has another and very important office, that of assisting the kidneys and lungs in eliminating from the system effete azotized substances, and we are taught that at least one hundred grains of this nitrogenized material is daily thrown off by the skin. Hence, any interference with this process must increase the labor of the kidneys, and, if equal to the task, an accumulation of noxious matter in the blood is the result. The foregoing are the principal symptoms that mark this disease. A word now in regard to its nature and cause.

As this fever was unknown to the great majority of physicians prior to the years 1867 and 1868, and as malaria is almost universally conceded to be its *materies morbi*, the question naturally arises, why has the disease not shown itself before? since these same malarious agencies have never been wanting in the localities where the disease made its appearance in post-bellum days. Many account for its presence to the fact, that after the negro was freed, the ditches filled up and a bad system of plantation drainage prevailed throughout the South. Hence, malaria had a better nidus for its production than ever before. This theory, I consider, untenable and unsatisfactory, for I have known persons who have lived in extremely malarious localities all their lives, and who have suffered from repeated attacks of chills and fever, from year to year, yet no "malarial hæmaturia" was ever heard of among them. "We must," says Prof. Bemiss, "in regard to the eccentric phenomena of malarial toxæmia, adopt one, or both conjointly, of two modes of accounting for them; either that the poison is capable of undergoing intrinsic changes with different seasons and different localities, is polymorphous, or is capable of combining with itself other poisons, which disturb the ordinary uniformity of its effects; or, on the other hand, that it finds in the various constitutions it attacks, certain conditions, tangible or intangible, which give it more intensity or give its symptoms some peculiar phase and direction. Then, to account for those otherwise inexplicable facts that it occasionally occurs that some one of these eccentricities became so common as to become the rule instead of the exception, as in the case of malarial hæmaturia in certain localities, we must say that the malarial poison has either acquired some new property, or that it finds the systems of its subjects in some peculiar pathological state, which favors the occurrence of renal hemorrhage. It is impossible to determine which one of these premises is exclusively true, or that either, or both, may not be true as it respects different cases of anomalous forms of malarial fever. I believe that the latter—that is, the state of the system at the period of attack more often becomes the ruling pathogenetic condition." This theory of the learned Professor is as ingenious and as plausible as any I have seen, and though it may be more brilliant than conclusive, it affords a very convenient placebo for our conjectures on the subject. But enough, and perhaps too much, has been said in regard to etiology and symp-

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tomology of this disease, so I will devote a few words to the differential diagnosis between it and yellow fever, and to its treatment. The distinguishing characteristics of the two diseases are as follows: 1. Yellow fever is a continued fever; hemorrhagic malarial fever is remittent and intermittent. 2. Yellow fever is an infectious disease, transmissible by fomites, and by some considered contagious; and is, therefore, frequently epidemic. Hemorrhagic malarial fever is not infectious, not transmitted by fomites, and hence is usually sporadic. 3. In yellow fever, black vomit is a pathognomonic symptom. In hemorrhagic malarial fever it is rarely seen. 4. The yellow hue of the skin in yellow fever usually appears between the second and fourth day, or is synchronous with the third stage. Sometimes it does not appear until after death. In hemorrhagic malarial fever, the yellow hue usually begins in the very incipiency of the attack. 5. One attack of yellow fever usually secures immunity from subsequent attacks. In hemorrhagic malarial fever, one attack does not fortify the system against, but rather predisposes it to subsequent attacks.

Treatment.—In the beginning of attack, I usually open the bowels with a brisk cathartic—my preference being a pill or capsule composed of podophylin, leptandrin, and extract of hyoscyamus. Should, however, the stomach be very irritable, which is the rule in the severer forms of the disease, I give fifteen grains of calomel in, or rather floating on water. For the fever I generally give the following: Fluid extract gelseminum, one and a half drams; sweet spirits of nitre, half fluid ounce; bicarbonate of potassa, one dram; sulphate morphia, half grain; water sufficient to make two ounces—mix. Dose, one teaspoonful every three or four hours in ice water. Were I to treat a case now, I would add to above mixture fluid extract of jaborandi, in ten drop doses; that is, if the stomach would bear it. Occasionally I employ warm pediluvia or vapor baths. I sometimes, when skin is harsh and dry, sponge the patient with warm alkaline water. For the hæmaturia, I usually do but little, as I believe it to be a conservative process; for by it, I believe, the kidneys are, to a great extent, relieved of the congestion, and are thus enabled to carry on their normal function. Believing the disease due to malarial toxæmia, I give quinine as soon as the system is in a favorable condition to receive it. I get it in the system any way I can—either per orem, per rectum, hypodermically or endermically. I formerly used large doses, but experience taught me that twenty-five to forty grains during twenty-four hours was amply sufficient. A blister over epigastrium and right hypochondrium will frequently relieve the irritable stomach. When convalescence is fully established, a bitter chalybeate tonic will be appropriate, and sometimes a preparation of arsenic can be added with benefit. A brief history and treatment of the seventeen cases that came under my practice are given below.

Case No. 1.—David W., a brunette, aged about 20 years; had several attacks of intermittent fever during the summer of 1868; in the latter part of August he had a severe chill, and during the night noticed a peculiar condition of his urine. I saw the case the following morning; his skin and

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conjunctivæ were very yellow, and his urine was of a deep-red color; his fever had subsided during the night; his tongue was coated with a brown "fur," and he complained of lassitude and a pain in the lumbar regions.

TREATMENT.—Quinine, six grains every four hours, until twenty-five to thirty grains had been taken; a warm foot-bath at night, and a dose of purgative pills. To relieve the kidneys I gave a mixture of spirits of nitre and acetate potassa. This mixture was continued for a day or two, and the quinine in gradually diminished quantity for a week. On the fourth day the skin and urine having cleared up considerably I dismissed the case. This patient lived on the northern edge of Prairie Creek swamp, a stream subject to frequent overflows. The hæmaturia came on with the second chill.

CASE No. 2.—Miss Lou W., a brunette (sister to the above person), age sixteen, had an attack at the same time and place, and the history, treatment and results of case substantially the same as case No. 1.

CASE No. 3.—Miss McC., a blonde, age sixteen; had several attacks of chills during the summer of 1868; in September had a severe chill, followed by high fever; skin a brownish-yellow hue; urine a dark-red color; some pain in the lumbar region and right side; there was great nausea and everything taken into the stomach was instantly rejected; pulse at the time 145; skin very dry and the patient exceedingly restless.

TREATMENT.—Cold effusions to head; mustard-plaster over stomach and right side; hot mustard foot-bath; gave effervescing draughts and pellets of ice continually; at night gave fifteen grains of calomel on ice water to open the bowels, which were quite torpid. The second day found the patient somewhat improved; bowels had been well open, and pulse had fallen to 110; nausea and other symptoms, previously mentioned, still continued; pulse rose in the evening to 140; gave Norwood's tincture in four drop doses, with the fortieth part of a grain of morphine every four hours. On the morning of the third day pulse lower, but otherwise the case was about the same; fever again rose in the afternoon; fever mixture suspended on account of irritable stomach; iced champagne tried with but little effect, so far as relieving nausea was concerned. Consulted, by letter, with Dr. Osborn, of Greensboro, in regard to the propriety of a blister over the stomach and liver; received a negative reply. Tried oxalate cerium and other remedies for nausea; train of symptoms unchanged, and case becoming desperate; put a blister over epigastrium and right hypochondrium. This was on the fifth day; the blister remained on six hours, but did not even redden the skin; thinking the ointment worthless, tried a fresh blister, with like results; had the patient sponged with warm water, to which a little lye had been added; used, also, hot vapor bath; used enema to open bowels. Sixth day—patient better; urine a light-red; nausea greatly relieved; pulse in the morning 105; gave five grains of quinine hypodermically, with 1-32 parts of a grain of morphia; about noon gave twenty grains of quinine per anum in mucilage of slippery elm. The patient, for the first time, retained, without trouble, iced milk; skin became moist and soft, and when the morning of the seventh day dawned, it brought with it fresh hope and

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bright prospects of a speedy convalescence. The region I had tried to blister on the fifth day now filled with serum; the skin cleared up considerably, and the urine was nearly normal in color; quinine, fifteen grains in two doses, given per mouth—and blister, denuded of cuticle, was dressed with thirty or forty grains more. On the eighth day the patient was pronounced convalescent.

Case No. 4.—A lad about seven years old, name forgotten, the son of a laboring man named Godfrey, who lived about three and half miles in the country, near a small creek; had chills during the fall and winter of 1868; in April, 1869, had two chills; at the second chill the skin became very yellow, and the urine of a pokeberry-red color. This case was intermittent in type, and history, treatment and results of the case about the same as cases numbers one and two.

Case No. 5.—Mrs. Mattie C., a blonde, aged about twenty-three years; had several attacks of chills during the year 1869; in September had an attack of remittent fever, severe in type, skin very yellow, urine bloody or red in color.

Treatment.—Cold effusions to head; vapor baths; purgative or dose of calomel: a mixture of nitre and gelseminum internally; mustard over stomach and liver; pellets of ice *ad libitum*. Pulse on the first day was 140; on the third day was 100; and quinine, thirty grains, with one-eighth of a grain of morphia by enema, was given in mucilage; the irritability of the stomach, which had existed from the beginning, had lessened; urine a paler red, and the patient's condition in every respect hopeful. On the fourth day, the pulse was ninety-five; case progressing favorably; tried quinine per orem; stomach would not tolerate it; resorted to enemata, as before, with good results. Fifth day -pulse, eighty-five; quinine in pills, borne by stomach; a speedy convalescence.

Case No. 6.--A negro man, copper-colored, though not a mulatto, name forgotten, lived on plantation of Harris Tinker; history of case very similar to case five; convalescence on the ninth day—the same day as the preceding case.

Case No. 7.—Lovick Davis, aged about nine years, brunette; had several spells of chills and fever during the summer of 1869; in September of same year had an attack of fever of remittent type; pulse and temperature high; skin harsh and dry, and of a deep yellowish-brown color; great nausea, and red urine. The history of this case is very similar to case three, though not so grave in type; tried to blister this case, with same results as in case three. Treatment about the same as in case five, and convalescence on the sixth day.

Case No. 8.—David Walker, same person as case one, aged about twenty-two years; had several attacks of chills during the year 1870; in September, of said year, I met him in the street with a severe chill on him, and skin looking very yellow; I was sent for in an hour or two afterwards; found him extremely ill; pulse 150, temperature 105½; tongue heavily coated with a dark-brown "fur;" very much nauseated, and vomiting a dark bilious matter; skin of a yellowish-brown color; urine of a dark-claret hue; pain in

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back, side and head—some delirium. Up to this time, this was decidedly the gravest case I had ever encountered.

TREATMENT.—Cold effusions to head; warm baths; calomel in five grain doses every four hours until fifteen grains had been given; several copious actions, of a dark, tarry appearance, soon followed; mustard, pellets of ice, and iced champagne were freely used, as in previous cases. On the morning of the second day, pulse 125, though it again reached 140 in the afternoon. Tried a fever mixture composed of spirits of nitre and gelseminum with a little morphia; stomach bore it moderately well; a blister over the stomach and liver was drawn with difficulty. On the third day, skin still very dry, and sponging with water, made alkaline with lye, was frequently resorted to. On the fourth day the urine, which had been of a claret color, now looked black, and when put in a clear vial looked like black ink; the fluid under blister also black. Some of the urine, at this time, was examined with microscope, and flattened blood corpuscles were found; don't remember any other facts in reference to analysis. Fifth day—patient improved; pulse 105; skin moist; iced milk, with a little lime water, taken several times during the day. Sixth day—fever mixture discontinued; pulse ninety; urine of a light claret hue, but somewhat scanty; twenty grains of quinine, in broken doses, given. Seventh day—patient, to all appearance, doing finely, fever gone; quinine, fifteen grains, in two doses, given; late in the afternoon the fever returned and continued all night; patient at times delirious; urine suppressed; patient very much prostrated; pulse feeble; brandy hypodermically, and mustard incessantly used, but to no purpose; coma gradually came on, and death closed the scene about dark. I cannot account for the relapse in the case, but it taught me the lesson that eternal vigilance should be our watch-word in every case, however favorable the symptoms might become, and no case can be considered safe until victory is unmistakably written on our banners and a positive convalescence established.

CASES NOS. 9 AND 10.—Narcissa and Willie Davis, sisters of Lovick Davis (case 7), ages thirteen and eleven years—blondes; both were attacked with hemorrhagic malarial fever in October, 1869. The history, treatment and results were about the same as in cases three and seven. I attempted to blister in these cases, and the results were identical with that of case three—convalescence in each case was on the sixth day. I will here remark that Lovick and Willie Davis each had a subsequent attack of hæmaturic malarial fever in the following year, and, by an accident, were omitted in this article. The attacks were milder than the previous one, and both cases were relieved without trouble. The following year, that is about 1880, the brother and two sisters removed to the Yazoo Valley, Mississippi. The second fall, after their arrival in Mississippi, each one of the trio had an attack of the same disease; and, in the fall of the next year, all three had other attacks of hæmaturic malarial fever, and the two girls died. The brother Lovick then moved to the hills for safety.

CASE NO. 11.—J. A. H., age 35, a farmer; January 4th, 1872, had a chill; took pills at night, which acted well. This was followed with twenty grains

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of quinine on the following morning in two doses; early in the afternoon (one o'clock) he had his second chill; on voiding urine he discovered it was very red; I was immediately sent for; his skin was jaundiced, his urine bloody, but no other symptoms that would excite alarm or anxiety; patient was placed on a mild diuretic and fever mixture in combination; on the following day he was much better; no fever, skin moist and not so yellow, though urine was still red; quinine in broken doses was given during the day, about twenty-five to thirty grains in all; patient felt so much better that he expected to go to his plantation on the following day, but to my surprise he had a chill about sundown; fever subsided during the night and quinine was again given in larger doses, about forty grains during the day; patient perfectly clear of fever and very hopeful; several good actions from bowels, in response to dose of liver medicine administered in early part of night. The morning of the 5th day found the patient not so well; had not rested well during night, and he had light fever; had voided urine but once during night, and that but little; used mustard very freely, alkaline baths, and gave a saline diuretic; no urine during day; after a restless night, in which everything was done to relieve the kidneys, with no success, the patient entered upon his 6th day with a very unfavorable prognosis; he was very feeble, and though I had two good M. D.'s with me, and we did all in our power to arouse the vital powers, our labor was of no avail, and at 6 o'clock p. m., the spirit of our friend winged its way to the "land of the leal."

Case No. 12.—Mrs. Foushee, age about fifty years, after several spells of intermittent fever during the summer of 1872, was taken sick in the latter part of September, with what proved to be a malignant attack of hemorrhagic malarial fever. I was called in on the morning of the second day; found patient with a pulse of 150, a dusky brown hue of the skin, and a dark red color of urine; urine was quite scant, and patient was very restless and delirious; stomach very irritable, and rejected everything taken; mustard used over back and extremities, over stomach and liver; tried a small dose of morphia, with a few drops of gelseminum and tincture of belladonna hypodermically, but nothing seemed to stay the inevitable result; urine became suppressed, comatose symptoms came on, and at one o'clock p. m. on the third day the patient breathed her last.

Case No. 13.—James Vaughn, a brunette, age twenty-four, fever of remittent type; very similar in every respect to case No. 5, in history, treatment, &c. My partner, Dr. L. D. Webb, had general management of case, and convalescence was declared on 7th day. Date, November, 1871.

Case No. 14.—George Jenkins, age about forty, a farmer, in September, 1872, had an attack of double quotidian intermittent fever; saw him on the third day, several hours after he had his fifth chill. He sent for me because of his alarm in regard to appearance of urine, which I found to be of the usual red or bloody color peculiar to this disease—that is, the disease under discussion. His skin also had the characteristic icteroid hue always seen in this type of fever. He informed me that two days previous he had his first chill about 11 o'clock a. m., and about sunset his fever was entirely off,

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At about 11 or 12 o'clock at night he had his second chill, with a subsidence of the fever at about daylight the following day. On the same day, about 11 o'clock a. m., chill No. 3 came on, and about midnight the fourth chill came on. This brings us to the third day and the 5th chill, as recorded above. I acknowledge that I was somewhat of a Jonas in regard to the correctness of the information received about the first four chills, so I decided to remain with him during night and decide the matter by my own observation. The patient, moreover, when I first saw him was very ill, and needed my personal attention. He was placed on a mixture of nitre and gelseminum about 2 o'clock p. m., and about dark his fever went off in a profuse perspiration; about 8 o'clock, after giving three compound cathartic pills, I retired, with orders to be notified in case he had a chill during the night. About 11½ o'clock, sure enough, I was aroused, and on going to the bedside of the patient, found him shaking with an old-fashioned chill. His fever rose to 140 pulsations, but with fever mixture, given every two hours, it was entirely off by 7 o'clock on the following morning. Quinine—about twenty-five grains—was given in two doses, at 7 and 10 o'clock, and fifteen grains in two doses 5 and 9 o'clock p. m., wound up the case *secundum artem.*

Case No. 15.—William E., aged about sixty years, a farmer, after several attacks of intermittent fever the summer of 1879, had in October of the year a severe attack of hemorrhagic malarial fever, which in history, treatment, &c., was almost a *fac simile* of case No. 13, except that on the 5th day there was no suppression of urine. This fluid, however, returned on the 7th day, and was of a normal color. The patient gradually grew worse from the 6th day, and though nourishment, brandy, and ammonia and other means were used to sustain strength, with four M. D.'s in attendance, with mind clear, and free from pain to the last, he yielded up the ghost on the night of the 8th day, apparently from sheer exhaustion of the powers.

Case No. 16. Miss Bettie F., aged about sixteen years, in September, 1874, while on a visit to relatives in this neighborhood, had an attack of fever of remittent type, characterized by a yellowish brown hue of skin, dark red urine, excessive vomiting of a bilious brown material, with a pulse of 150 beats to the minute. This was a very grave case in appearance at first, but cold being freely used to head, mustard to epigastrium, back and over liver, a fever mixture composed of nitre and gelseminum, a hypodermic dose of morphia, one-eighth of grain, with ten drops of tincture of belladonna, and fifteen grains of calomel at night, made a most favorable impression on case in the first twelve hours—bringing the pulse down to 105, quieting the stomach, acting freely on bowels—and with quinine to finish up the case, the patient, to the great surprise of the physician and gratification of friends, was, on the third day, pronounced convalescent.

Case No. 17. Robert Herron, farmer, age twenty-five; after several attacks of intermittent fever, during the summer and fall of 1881, had, in October, a very severe attack of malarial hemorrhagic fever, remittent in type. Attack began with a chill late in the afternoon; saw patient early the following morning: skin intensely yellow and dry; urine of a bloody hue; had vomited a great deal during the night; had several copious discharges

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from bowels, from dose of purgative medicine taken the day before; pulse, when I first saw him (8 o'clock a. m.) was 120, temperature 103½.

TREATMENT.—Mustard used freely as in preceding cases, and occasionally warm foot baths. Internally a mixture composed as follows: Sweet spirits of nitre, one fluid ounce; fluid extract of gelseminum, one dram; tincture of hyoscyamus, one dram; bi-carbonate of potassa, two drams; water q. s. ut ft. three fluid ounces—mix. Dose, teaspoonful every two or three hours. 4 o'clock p. m.—Pulse 140, temperature 105, patient very restless; used hypodermically one-half grain morphine and five drops of fluid extract of belladonna; vapor bath. Third day, 8½ a. m.—Found patient much worse; had spent a restless night; pulse 150; temperature 105½; extremities cold almost to knees and elbows; had patient rubbed with dry mustard, and inject brandy and morphia under skin. In two hours extremities were warm; patient not so restless; otherwise the same. In early afternoon, had him thoroughly sponged with warm water made alkaline. To each dose of fever mixture added ten drops of fluid extract of jaborandi. Five o'clock p. m.—Pulse 130, temperature 104, skin slightly moist; fever mixture continued all night. 4th day of sickness, 8½ a. m.—Patient decidedly better; had spent a comparatively comfortable night; pulse 105, temperature 101, skin moist, urine not so deep a red color. 5th day, morning. Pulse about 100, temperature 99½; quinine in eight grain doses every four hours until three doses were taken. This remedy was continued for several days. On the 6th day patient dismissed convalescent. This case, from the gravity of the early symptoms, I thought would surely end fatally, and its happy termination was an unlooked for event and a pleasant surprise. This case ends my list of this interesting disease, and is the last case, so far as my information goes, that has appeared in this locality.

DR. W. A. HUNTER, RED LEVEL, COVINGTON COUNTY.

Your note and circular I have just received. I have never seen but two cases of hemorrhagic malarial fever, and both cases of the hæmaturic form. The first case was myself, in October last, I think about the 10th; remember the days of the week distinctly. On Tuesday, at 10 o'clock, had a light chill and fever; did not take my bed for it. Thursday had the second chill and fever; did not take my bed for that one, but on Saturday, at 10 o'clock a. m., had the third and last chill, which lasted until 2 p. m., then on came my fever, with very bloody urine, and it continued bloody until the next day. At 4 p. m. it became clear, kidneys acting freely all the time, without any pain whatever; and sometime during Saturday night my skin became yellow, as much so as a pumpkin, and looked like it had been varnished; in fact, my friends who came to see me said it looked shiny. My fever left me finally about 4 o'clock Sunday morning, my skin having acted profusely and my bowels freely. During the fever my stomach was irritable, vomited a great deal of water, as I would drink it, and often. My treatment was as follows, up to Saturday, the last chill. I had been taking quinine extravagantly, with the muriated tincture of iron, but no purga-

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tives, as my bowels were regular, but on Saturday I directed my wife to give me thirty grains of calomel, in three doses, every two hours, which she did, commencing with the first dose Saturday at 6 o'clock p. m., and the second at 8 and 10. That hoisted the flood gate, and at 2 o'clock a. m., Sunday, the bile began to flow, and I continued to discharge a vast amount of bile for three days afterwards, and in six days after my last chill my skin looked natural, and I was well. But let me state just here, I believe if I had not have taken that calomel I should have died, notwithstanding I had taken a sufficient amount of quinine to destroy the malaria that was in my blood.

The second case I happened to see the day before she died, and learned all the particulars. She lived in two miles of me. Was taken sick, I think, five days after I was, and her symptoms were precisely like mine, in regard to the skin, urine and every other particular. Now she had taken a great deal of quinine, but no calomel. Could I have seen her in time I would have given calomel, believing, too, the case would have resulted differently. She continued to pass bloody urine for twenty-four or six hours, and then it had become clear, but that bile pent up in her did the work agreeable to my opinion.

DR. R. D. JACKSON, SUMMERFIELD, DALLAS COUNTY.

In answer to your request for report of my experience with hemorrhagic malarial fever, I only have time to write you a short letter. If I had the time to go into details, I could not say more than has been said by some of our eminent brethren on this subject. In 1866 (sometime in December) just as I was moving from Selma to my farm about ten miles northwest of Selma, I was called to see the first case that I had ever seen or heard of. This was a man in good circumstances, lived well, and although living in a malarial region had not had chills before the first preceding the hemorrhage, vomiting, etc. My first impression upon seeing him was that it was a case of yellow fever, but there was no yellow fever anywhere at that time, and I was not willing to pronounce it such upon my own responsibility. I had nothing to guide me in making my prescription but my own judgment. My patient had had a chill. I found him with fever, yellow skin, vomiting a bluish tenacious mucous peculiar to this disease, and voiding bloody urine. I directed ten grains of calomel in two doses, two hours apart, five grains of quinine every two hours to prevent return of chill, tincture of iron to restrain hemorrhage, with mild diuretics, and mucilaginous mixtures. Upon leaving him I told him that I was just on the point of moving from Selma, and that if he had any preference in doctors to select one and I would come out in the afternoon with him and turn his case over to him. Dr. R. Clarke was his preference. On our way I told the doctor that if the case was not one of yellow fever, I did not know what it was. After the doctor (C.) had examined he said he supposed that we would have to call it "high land yellow fever," and said that he had the fall before met with a case similar in some respects in a little girl at Uniontown; that the girl had had three attacks, and that the attacks came on after giving quinine to

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break up the chills, and that he had some doubt as to the use of quinine in such cases. I gave him my prescriptions in this case; he said that he thought my plan was good, but that he would stop the quinine and try to warm him over the cold stage with hot teas and hot applications to stomach, and mustard to back, &c. This man got well. Shortly after moving to my home in the country, I was called to see two other cases, but being sick at the time, I urged them to go for some other doctor. One of these cases did not vomit much (both were treated as bilious remittent fever); the other threw up every dose of medicine that he took. The one who retained his quinine died—the other got well. From this time on I treated a number of cases without quinine, and I think as successfully, if not more so, than any one else; and in proof of this assertion I herewith send you a tabulated report of cases which was published in the "Medical News" of November (I believe) by Dr. E. D. McDaniel. Of the reporters, Drs. Webb, Perry, and Webb, were in favor of the use of quinine, while Drs. McDaniel, Minor, and myself were against its use, and if the 178 cases had been treated without quinine, there would have been saved twenty lives more than were saved under the divided treatment, and forty-one more than would have been saved if quinine had been used in all.

Reporters.	No. of cases.	Recovered.	Died.	Quinine taken.	Quinine not taken.	Recovered with quinine.	Recovered without quinine.	Died with quinine.	Died without quinine.
Dr. P. B. Minor	41	32	9	8	28	2	30	6	8
Dr. H. Y. Webb	11	6	5	10	1	6	0	4	1
Dr. R. D. Jackson	46	38	8	2	44	0	38	2	6
Dr. Sam. Perry	22	13	9	20	2	11	2	9	0
Dr. E. D. McDaniel	18	13	5	12	6	7	6	5	0
	7	1	6	7	0	2	0	6	0
Dr. R. D. Webb	24	21	3	23	1	21	0	2	1
	9	2	7	3	6	1	0	1	6
Totals	178	126	52	85	93	50	76	35	17

DR. CHARLES H. JERNIGAN, ENON, BULLOCK COUNTY.

Your circular letter of the 22d inst. reached me the 24th inst. I give you the history of a case of the hæmatemesic form, which occurred in my practice in September, 1855.

1. One case, female adult; recovery.

2. Type of fever, remittent; temperature ranging high (no thermometer), pulse frequent, though small. The hemorrhagic vomiting, which began on the second day, had the appearance of coffee grounds, and was profuse; there was jaundice from the beginning, the skin and conjunctivæ were of a

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dusky, dirty yellow, the bowels constipated, scant, though high colored urine; so much so, indeed, as to have the appearance of blood. The attack lasted about eight days. Convalesence slow.

3. Apparently the remedies had but little effect; gave calomel and quinine in heroic doses, particularly the latter; attribute the recovery to good luck and a resisting constitution.

4. I consider it of malarial production, engrafting itself on a pre-existing malarial cachexia, or the result of malarial surcharge.

5. The resemblance of my case to yellow fever in some points was striking. An old doctor called in, remarked, "if this case was in New Orleans it would be pronounced yellow fever." There was no great prostration.

DR. WM. H. JOHNSON, SELMA, DALLAS COUNTY.

Your circular letter is at hand, and in reply to the same I have to state that I have had no cases of malarial hemorrhagic fever where the hæmaturic form was absent. I have had one case in which there was hæmaturia, hæmatemesis and the discharges per rectum of the same character. In all the cases I have seen the jaundice appeared within 24 hours after the chill, and in all my cases the fever has been of the continued type, no entire intermission unless with disappearance of symptoms. The fever has never been excessive; temperature rarely over 102 or 103 Fah.; pulse ranging between 100 and 120 the first three or four days.

TREATMENT.—Thorough and profuse diaphoresis will relieve all the symptoms. Quinine in my hands has never been beneficial that I could see, no matter how administered, until after all the symptoms have disappeared. I always give it in the convalescing stage. A thoroughly quininized patient, deaf as a post, has frequently with me had a second chill and return of all symptoms. I have had it occurring in patients who had not had more than two or three chills, and some with only the first. It is not confined to those alone who had pre-existing malarial cachexia. Malarial yellow fever, the severe frontal headache, red and suffused eyes, pains in the lumbar regions and limbs, are characteristic or usually accompany the disease. These symptoms are absent in the malarial hemorrhagic fever. In yellow fever there is not to my knowledge hæmaturia following the first chill. In malarial hemorrhagic fever hæmaturia is the most prominent and characteristic symptom, next to that, intense nausea and vomiting. Delirium is almost never present during the first three or four days in malarial hemorrhagic fever—quite common in yellow fever. Another point is the prevalence of yellow fever at the time. Malarial hemorrhagic fever is most apt to occur from the middle of August to the 10th or 15th of October. Quinine ought to be the remedy, but my experience teaches me otherwise, and in my opinion it fails on account of the congestive state of the abdominal organs and the condition of the nervous system, due to the poison causing the disease. I have lost only one case in which my directions were followed. I have treated some fifteen or twenty cases, and have had only

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two to die, and one of these refused to follow my treatment. The other was my first case.

In a second communication Dr. Johnson writes:

The case to which I referred—the hæmatemesic case—had a chill at one o'clock, p. m., in the day, and by 12 o'clock at night had hæmaturia, and her skin was yellow, and there was intense nausea and vomiting, all occurring within twelve hours. I used the hot bath that night and then wrapped the patient in sheets and blankets without drying the skin. The sheets were yellow when they were taken off of her, being stained from her skin. She vomited the blueish material early on the 2d day, and it afterwards changed to the coffee grounds or blood during the day, and passed it by the rectum that night also; on the 3d day she also passed blood per vaginum. On the night of the third day, or early on the morning of the 4th, all hemorrhages ceased. After the 4th day was able to give a little nourishment by the mouth, but principally by enema, and some nourishment was given by enema for nearly or quite three weeks. Her pulse, I remember distinctly, did not fall below 120 per minute for three weeks. And I remember I was so worried at the pulse still continuing up to 120 when every other symptom was favorable and the patient otherwise doing admirably. This is as much as I can now recall of that case. But I do not now remember but one other case in which blood was vomited. This took place in a second attack of malarial hemorrhagic fever. The second attack occurred one month after the previous attack. I can not recall any of the circumstances connected with it except the following. I know in his first attack I kept him alive by hypodermics of strychnine, after I had given up all hope of his recovering. The second attack was short, and I, after having arrested the hæmaturia and hæmetemesis, kept him under the influence of morphine for three days in order to ward off the chill. Both cases got well. I am sorry that it is not in my power to give you more efficient aid in this matter, but it cannot be helped.

DR. W. H. JONES, MODESTA, DALLAS COUNTY.

1. I have treated thirty-eight cases, of which two terminated fatally. 2. The features presented at the onset are the same as those seen in an ordinary attack of intermittent fever, viz.: a rigor, followed by a hot stage and a sweating stage. The range of temperature and the range of the pulse are not different from the pulse and temperature in an intermittent; varying in different cases, as the temperature and pulse are found to vary in all intermittents, as different persons are attacked; yes, and it varies in the same person at each individual exascerbation. These stages, the cold, hot and sweating, are followed by a distinct apyrexia, not complete, owing to the presence of other complications; yet the cold, hot and sweating stages of the fever leave the patient free, for a period, marked by its form, which is most generally tertian. As to the length of time which must elapse after the onset before the jaundice and hemorrhage are seen, I can only state ap-

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proximately, as they were present in every case on my arrival at the bedside of the patient. Hence, I will say anywhere from two to six hours after the rigor sets in. The stomach (with one exception), I found intensely irritable, rejecting everything, or more properly, literally hurling everything back that was swallowed; the bowels, unless previously opened, are invariably constipated, but respond promptly to the influence of cathartics. The kidneys are first unduly active, becoming rapidly apparently torpid, until, in fatal cases, there is complete suppression of the eliminating power. As the quantity of urine decreases it will be found more easily coagulated, as it is also more dense. The duration of the disease varies as does the ordinary intermittent attacks. In some instances the hemorrhage ceases in about six hours, in others will continue four or five days. The skin gets rid of the icteroid hue in just the proportion that the kidneys take up their functions; if the action is vigorous the skin rapidly assumes its color. In fatal cases the patient sinks into a semi coma (yet with the mental facilities clear when aroused); in this condition death quickly comes to their relief, as they simply cease to breathe, without a single convulsive effort. As to the immediate cause of death in this disease, it seems due to the entrance of urea into the brain.

3. The treatment I have relied upon, and with some success, is quinia, given as the emergency required. A more detailed statement may be necessary for my present purposes, so I will make it. If the bowels have not been previously opened, this should receive immediate attention, and, in such case, I give a cathartic dose of calomel and soda (soda bicarb.), and, if necessary, hasten its action with enema. Acid drinks may be freely given, and are very grateful to the palate. On several occasions I have succeeded in quieting the stomach with very sour whey; when lemon acid was not tolerated by the stomach, the whey was always acceptable and rendered good service in quieting the stomach, and, apparently, arousing the kidneys to action. If there is dryness in the fauces, turpentine becomes a necessary factor in the treatment. This dryness of the fauces is almost surely found to aggravate the disposition to vomit; and, in this disease, it is found also indicative of entire inaction of the mucuous surfaces; but my reliance is upon getting the patient as quickly and thoroughly under the influence of quinine as possible. I have never seen a patient die of this or any other malarial ill while under the influence of this drug (quinia). True, I have seen some die after taking a sufficient amount to have brought any one under its influence, yet it was never assimilated or digested; in fact it had not entered the circulation in any appreciable quantity. Again, in my hands, quinine has seemed to aid in re-establishing a healthy action to the kidneys, the hemorrhage ceasing or beginning its backward move with the first dose of quinine. This, of the hæmaturic form; I have not been so unfortunate as to encounter the hæmagastric form of this ill, and am inclined to be a little skeptical in regard to its existence.

4. I regard the disease as essentially malarial in its origin; in fact, its sporadic appearance in several separate localities, and its lacking anything of an infectious character, precludes any other opinion as to what produces

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it. I have never seen it attack previously healthy persons; it seems to follow, as a sequence, in protracted cases of malarial poisoning, especially such cases as have not had proper medical treatment. I do not think it a new disease engrafted on previously existing malarial cachexia; it has more the appearance of an intensified form of the toxic effect of malaria. Of all the cases coming under my observation, the time chosen for their onslaught was late in the fall and early in winter.

5. The symptoms in this disease, at its inception, are rigor, heat and sweating. It never attacks persons in health; it requires malaria to produce it; it is not infectious; there is no supra orbital tension nor pain as a premonitor of its approach; the face is not flushed nor are the eyes suffused; it is comparatively painless. The rigor ushering in the disease is always distinct, generally severe; there is icteroid hue of the surface; discharges of bloody urine, and, in some rare cases, more blood than urine; and intense nausea and vomiting. In yellow fever, there is the premonition generally felt of languor and supra orbital tension; its onset is signalled with slight rigor; there is intense pain in the loin; the face is flushed, and the eyes are suffused, and there is a look of restless anxiety on the countenance. In yellow fever fatal cases, especially, there is the inevitable black vomit, and, generally, convulsive death.

In the two ills, these points of resemblance, the icteroid hue of the surface, the urinous smell of the breath and sweat, the scant urine, and the fact that neither ill seems to attack negroes; the one produced by a specific poison, the other of malarial origin. It has been twenty years since I was with a case of specific yellow fever, yet it seems easy to distinguish it from any disease, however much they may resemble in some particulars.

I never had the good fortune to witness a post mortem examination in malarial hæmaturia, consequently can say nothing of the appearance of the different organs.

NOTE.—Dr. Jones had kept a clinical record of his cases, but this was unfortunately lost.

DR. J. E. HENDRICK, LEON, CRENSHAW COUNTY.

I have seen only one case of hemorrhagic malarial fever—a young man, twenty-one years of age, who had been working at a water gin and mill during the hot months of August and September, and also some in July. He contracted chills, being exposed very much and kept damp by working in the water regularly every day. This mill is on the Patsaliga river; at its seat a large lake of stagnant water, and many others surround the mill, above and below. They, the lakes, as well as the river, were lower last summer and fall than ever known before, hence productive of much malaria. Others, besides the young man mentioned, contracted fever and chills. The young man was treated by his mother with quinine, about thirty grains, administered just before each expected chill. The quinine would break them up, but they would return. On the night of the twentieth of January, 1884, he had an unusual long chill, lasting him from seven

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until two o'clock that night. During the entire night he complained very much (so says his mother) of his back, and was very tender from pressure. The next morning I was called, and found him with high fever; pulse 120; tongue heavily coated with a dark brown coat, and in the chamber was about one pint of bloody urine that he had passed partly before and after daylight. I gave him a mercurial course, as his symptoms indicated, his skin showing a little jaundice caste upon my first visit. I cupped him freely over both kidneys, and kept up warm fomentations, and, occasionally a hip-bath; gave him freely of an infusion of buchu; and met the expected chill with about thirty grains of quinine, administered in four parts, and commencing about eight hours before the chill. This remedy was continued for four days, no chill returning. I was suspicious of this being yellow chills (so-called), and notified the parent if he continued to get a deeper tinge and the hemorrhage kept up, to notify me at once. I was again called the next morning; found my patient as yellow as any case of jaundice I ever saw; the hemorrhage still bad, and I at once diagnosed the case hemorrhagic malarial fever. The temperature was not taken, as my thermometer was broken. The hemorrhage and fever, under the above treatment, continued to give away, and on the seventh day he was convalescing, although up to this date he is very yellow.

I never saw a case of yellow fever, and the above is the only case of this type that ever occurred in my practice, or in this section. I am satisfied this is a typical case of the disease mentioned above. As I never saw a case of yellow fever, you can make the differential diagnosis, and correct this (if you should use the case) in the manner in which it should be; and if there is anything else about the case, that you would like to know, that I have failed to mention, please write me; also, if I am correct as to this diagnosis in the case.

Dr. W. A. Hunter, of Brooklyn, Conecuh county, I learn, had three cases of the same type—all dying. You can write him if you wish.

Dr. E. H. Johnson lost a case near Rutledge (a Mr. William Tisdale) several years ago, that he and two other physicians diagnosed yellow fever, and said it would be called such if it had occurred where yellow fever prevailed.

DR. JOHN S. LIGHTFOOT, SHORTER'S DEPOT, MACON COUNTY.

In reply to your circular, I will state that my experience in hemorrhagic malarial fever is limited to nine cases. Of this number seven recovered and two died. That this disease is of malarial origin I do not think admits of a doubt, as it always occurs in those districts in which this poison abounds, or in persons who have been exposed in such localities. The development of the disease, in all the cases that I have seen, was preceded by a chill and general bad health. In no case did the hemorrhage and jaundice appear with the first chill. The usual symptoms are the bloody urine, jaundice, pains in the head, stomach, region of the kidneys, nausea, with frequent and painful vomiting of a dark green, or a yellow, tenaceous mat-

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ter, and in hæmagastric form, changing to dark red, resembling in every respect that discharged from the bladder. The tongue covered with a thick, white coating, with edges red, mouth dry, with intense thirst, pulse quick, with a peculiar jerk or twitch, which is usually seen in purpura. The bowels in every case that I have seen have been constipated. Action of the kidneys in severe cases were scant, and in both fatal cases was suppressed. In my cases bloody urine appeared in from one to four hours after the chill, jaundice about the same time, hæmetemesis and hæmaturia occurred together in two cases. In the other seven hæmaturia alone. The majority of my cases were in October and November. As for treatment, where there is marked periodicity I have found quinine invaluable; but, in cases where paroxysms occur at irregular intervals, I have found hypo sulphite soda to act more promptly, and given in solution with buchu forms an excellent remedy, controlling the paroxysms and at the same time favoring the action of the kidneys, which, I think, is the great end we should have in view. With this view I always use a diuretic at the first sign of failure on the part of the kidneys to perform their duty. If the disease has just developed I have found benefit from a mercurial cathartic. But after it is fully developed I think it worse than useless. Blisters on the stomach have seemed to mitigate the nausea in some cases. The urine, in all my successful cases, commenced clearing up on the fourth day after its appearance; the jaundice on the day following. Having never had a case of specific yellow fever I can not give the differential diagnosis between it and this disease.

In a subsequent communication Dr. Lightfoot writes as follows:

In reply to yours of the 14th inst. I will write you notes as taken at bedsides, which are as follows:

Case 1st.--C. R., female, white, aged 15; had for a month past been complaining of feeling badly, but was still able to be up. In order to improve her general health was taking quinine daily. On the 23d day of October, 1868, she had a chill, followed by fever and complete intermission; at nine o'clock on the 24th she had another chill which lasted four hours; the subsequent fever was light; at four o'clock, p. m., there was a large discharge from the bladder, containing disorganized blood; I saw her at six o'clock, p. m.; found her suffering from pain in the head, stomach and region of the kidneys; vomiting frequent and painful; the matter ejected was first of a dark green color, afterwards changing to a dark red, resembling in every respect that discharged from the bladder; tongue coated with thick, white fur, edges red, mouth dry, thirst intense, skin peculiarly bronzed, brighter and more golden than that seen in a severe case of jaundice; pulse quick, with that peculiar twitch or jerk usually found in purpura. 25th. Symptoms no better, urine and matter vomited still containing a large quantity of blood. 26th. Matter ejected from the stomach changed from red to a yellow, bilious appearance; urine thinner and less highly colored. 27th. Vomiting ceased, urine natural in color, patient tolerably comfortable and took some nourishment. Treatment consisted of diuretics, quinine sufficient to

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prevent the return of chill, stimulants when exhaustion was extreme, opiates to procure rest. No attempt was made to move the bowels after the first day until the fourth, when a dose of compound cathartic pills produced copious, alvine discharges with considerable relief to patient; after treatment, iron tonics. Convalescence was slow, with several severe attacks of cramp colic.

Case 2d.—Mrs. M. C., age 59, white; had been in feeble health for some time; pale and feeble, had a chill on the first day of November, 1878, another on the 3d; on the 5th had a chill sensation, lasting from four o'clock, a. m., to six o'clock, p. m. At the cessation of the cold stage bloody urine was passed. I saw her at 10 p. m.; skin deeply tinged; intense nausea and vomiting; substance vomited about the color of cherry brandy, urine of the same color, pains in the head, stomach and region of the kidneys, thirst distressing, tongue heavily coated, with edges red, pulse quick and weak. 6th. No change, except the skin is more deeply tinged, and the matter vomited changed from bloody to a dark yellow color, very thick and tenacious, and partial suppression of urine, which, however, was promptly relieved with diuretics. No chill to-day, the 7th; urine somewhat thinner, vomiting intense, nothing was retained on the stomach except a little brandy; pulse quick and weak. 8th. No blood in urine, skin clearing up, nausea abating, tongue dry, rough and cracked. 9th. Patient fairly convalescent; took nourishment at short intervals in small quantities. Treatment: quinine sufficient to prevent chill, diuretics to guard against suppression ; tincture of iron every six hours to correct hemorrhagic tendency, blisters over the epigastric region; turpentine when tongue was dry and cracked, cathartic on the 4th day of disease and iron tonics during convalescence. This patient had another attack of hemorrhagic fever twelve months later and died. My cases have all been alike except one, a bright mulatto. In my cases there were two deaths, both white, one male and one female.

The above notes were taken for private use, and are very imperfect; if they prove of use to you I will be glad of it.

DR. J. S. MACON, HAY'S STORE, MADISON COUNTY.

In reply to your circular letter just received in regard to hemorrhagic malarial fever and its several varieties, I would state that of the hæmagastric or hæmatemesic in a practice of sixteen years in the mountains of North Alabama, I have not seen a case, or perhaps, more properly this symptom of disease. Of the hæmaturic form, I have had several cases occurring in low malarial districts, associated with intermittent fever. I did not take clinical notes of each case from day to day as I might have done, but will proceed to give my mite of experience with it. My idea of its pathology, which is solely indiginous in its nature, and synonomous with yellow and other fevers, and if mixed with animal affluvia or poisons, would be as fearful in its ravages. These cases, the most of them, had been the victims of chills, or of pre-existing cachexia in the fall months. The symptoms were presented in the same general way that intermittent fever presents.

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After the systems became sufficiently charged with this poison, a rigor, distinct, followed by imperfectly marked febrile movement. From one to four hours after the paroxysm, the patient almost always passes dark colored or bloody urine (albuminous). After second day (unless it be an aggravated case) convalescence sets in with treatment. So far as my limited observation extends of this hæmaturic variety of fever, that all patients suffering therewith had the same pale, sallow cachectic aspect (jaundiced), and this icteroid tint remaining for some time after other symptoms had abated, and the patient well with that exception. This miasmatic or constitutional affection, of which the hæmaturia is a local expression, I am sorry to say is deficient as regards clinical facts, etiology, etc., as far as I have observed, in the science and history of these classes of fevers; that this toxic effect of malaria, acting on the nerve centers through the medium of the blood, is the main cause in excessive or deficient secretion. The vasa motor nervous system which is diffused over the whole fabric, every capillary, both venus and arterial vessels, has its element of this system, aided by the sympathetic, which controls and attacks the blood, to aid in functional action as muscular contraction, mental impulse experienced in emotion and sensation. Hence, it is this that causes determination of blood to the brain, and diffusion in the capillaries of the cheek in blushing. This nervous system uses such power over the movements of the blood, and its influence extends to it in regard to health. If that which contains the vital part of mortal man becomes deficient in its health-giving elements, the whole system becomes involved sooner or later. If the nervous system is in a diseased condition (either physical or mental), the blood also takes on an abnormal condition. From this toxæmia, hyperinosia, a general morbid condition of the blood, a breaking down of the life-giving constituents, the red globules. In the cases occurring in my practice, hemorrhage was not present in all the cases, but I found hæmaturia in the urine invariably on the débris of the blood being removed by the depurating action of the kidneys. Taking this view, we see why the capillaries are ruptured, and as sequelæ we have blood from the stomach, nose, ears, kidneys, &c. Icterus is produced by clogging up of the biliary duct, with bile, and consequent absorption of biliverdin.

Bringing this paper to a close, I will give the mode of treatment and the results: First, my object to "remove cause," and the "effects would cease." All the secretions being suspended, I began by having the patient sponged with water and soda. Then, if necessary, move the bowels; keep up gentle action on liver by elective or alterative medicines. Then in ten or twelve hours commence with quinine and iron, ten grains of the former, and ten drops of the latter, four to six doses in the twenty-four hours. If requisite, a little brandy every two, four, or six hours. Apply mustard to stomach and spine in order to arouse the action of the skin; would give, also, jaborandi, with acetate of potash. A most excellent remedy in this affection is to give ten grains of hyposulphite of soda in plenty of water, three or four ounces every three hours; in fact, an antizymotic; eliminate hydrocarbon by the liver; serpentaria, every four hours, usual dose; calomel

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contra indicated. If hemorrhage is excessive use ergot and rhus aromatica. I have found sub-nitrate of bismuth to act efficaciously; after acute stage has abated, treat as ordinary intermittent or remittent fever. Quinine acts better after this stage than in the outset. With rich food that is digestible, and a few drops of hydrochloric acid every six hours, sustaining vitality until we can eliminate this poison, our patients are soon in health again. With this method of treatment my patients all recovered, save one, who had a return of this fever this fall, this time with hemorrhage from the bowels. At my last visit improving.

DR. A. C. MATHESON, CAMDEN, WILCOX COUNTY.

Hæmaturic form from 1862 to 1882. The number of cases treated was twelve; of these four were mild, four severe, and four presenting symptoms that would class them among the very serious or dangerous attacks of this disease; number of recoveries, twelve; number of deaths, none The following case will illustrate the clinical history of the seven cases:

Oct. 8th, 1880, J. B, 2:30 p. m.—Icteric pallor, jactitation, dark bilious vomiting, pulse 100, tongue pale, coated; skin feels cool, chilly sensations, occasional sweats, bladder emptied every two hours, one pint, very bloody; bowels inactive; gave calomel and soda, five grains each at 3:30; 4 p. m., gave creasote, half minim; and soon after Fowler's solution arsenic, eight minims, hypodermically. At 7:30, gave hydrate chloral, which was retained for half an hour, but failed to procure sleep; 8 p. m., gave calomel and soda, three grains each; 8:30, gave solution quinine, ten grains, which was rejected; had several small bilious actions; 10 p. m., gave eight minims of Fowler's solution, to be repeated every four hours. 9th, 8:30 a. m., gave sulphate quinine, six grains every three hours, which was continued until forty-two grains were taken; pulse 120, skin hot and dry; discharge from bladder of bloody urine every four hours, one pint each; continued Fowler's solution, eight minims, every six hours. 10th. Stomach more quiet, great thirst, ice *ad libitum*; continued quinine until 2:30 p. m.; hæmaturia gradually diminishing; the discharges from bladder being less frequent and gradually clearing; continued Fowler's solution, six minims, every six hours; bowels not having acted, gave three grains each of calomel and soda every four hours; acted after fourth dose. 11th. Urine still clearing, jaundice also disappearing gradually; continued Fowler's solution. 12th. Stomach quiet, urine clear, jaundice less; takes whisky and chicken broth. May 11th, 1882, R. R., fifteen years; fever, with hæmaturia; bladder emptied every three hours, twelve ounces dark and bloody. May 12th, 8 a. m., pulse 82, temperature 101.5, respiration 30. May 13th, 3 p. m., pulse 108, temperature 101, respiration 24. 13th, 8 a. m., pulse 100, temperature 98.5, respiration 25. 3 p. m., pulse 104, temperature 99.5, respiration 24; bloody urine continued until the 14th, when it became clear.

The treatment was substantially that of malarial intermittent and remittent. The twelve cases were all of the remittent form. In some there may have been an initial chill, but not followed by any periodical succession of

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them. Quinine was given in all cases in doses of from five to eight grains every three or four hours. It was only suspended when the stomach refused to retain it, or stopped when the fever ceased. In no case was it noticed that the hæmaturia was increased by its administration. As to the etiology, all of the cases occurred in those who were under the influence of malaria, either from recent exposure to a highly malarious locality, or who from continued residence were under the influence of the malarious cachexy. The seasons most favorable to its occurrence were autumn and winter, occasionally in the spring. In the treatment quinine was given and persistently, but not with the expectation of jugulating the fever. If the stomach would not retain it, it was suspended. Arsenic was given in pill form, viz: Arsenius acid, two and a half grains; white castile soap, thirty grains; pulv. columba, twenty grains; mix ft. in pil thirty-two. Dose, one every four or six hours; or liquor potassa arsenatis, five to twelve minims, every four or six hours.

DR. S. W. MAY, BULLOCK, CRENSHAW COUNTY.

Been having chills occasionally since the first of October, 1883, up to February 3d, 1884. On February the third, about midnight, was taken with a severe chill, which lasted about two hours; after chill there came a very high fever, which lasted three or four hours; discovered blood in urine early that morning; also, that he was very yellow; pain in the region of the kidneys from beginning of the chill; wanting to make water very often. I was called to patient eleven hours after he was taken. On my arrival I found the patient suffering with a slight pain in the region of the kidneys; skin hot and dry, also, extremely yellow; temperature 102; pulse eighty-five per minute; large amount of blood in urine; talked very low; tongue heavily coated and very dry. No change could be discovered on the second day. February fifth—pulse ninety; temperature 102½; no bloody urine, but urine yellow; mind slightly impaired; tongue dry and heavily coated. February sixth—pulse 109; temperature 103½; tongue dry and heavily coated; can see the house top moving; looks wild out of eyes; wanting to go out and tend to business; talks about things that never have been, nor never will be. These symptoms continued till the eleventh of February. February eleventh—pulse 125; temperature 104½; sick stomach all the time, but much worse than usual to-day; skin very dry and hot; tongue dry and heavily coated; mind as before. February twelfth—sweated last night; tongue cleaning off; skin not so yellow, and all other symptoms improving; he is now doing very well.

TREATMENT.—For the first day—nitrate potash; sweet spirits nitre; fluid ext. digitalis. For second day—galic acid; muriated tincture of iron stopped bloody urine in six hours. The first not stopping the blood in twenty-four hours, I used the second prescription.

TREATMENT CONTINUED.—After the bloody urine was checked, small doses of turpentine were given during the fever, five drops every six hours. To reduce the fever, I gave fluid ext. gelseminum; fluid ext. aconite; sweet spirits

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nitre. To check sick stomach - subnitrate bismuth and sulphate morphia; I gave them combined, which would check vomiting immediately. Frequent doses of cathartics were given, such as calomel, rhubarb, aloes, extract colocynth, gamboge - made into pills, one to three per day. I also gave a dose of salts occasionally. Tried quinine, but could not continue it, it seemed to make the patient worse; I tried it in large and small doses; no benefit was seen from it, but it did harm.

DR. E. D. M'DANIEL, CAMDEN, WILCOX COUNTY.

In regard to hæmatemesic malarial fever, I know nothing, except what I have read about it; I have never seen a case that I recognized as such. Nor have I encountered a case of hemorrhagic malarial fever, in which the hemorrhage was from the nose, gums, or elsewhere than from the kidney; or in which it was from the kidney and also from other parts. Of course I have seen in malarial fevers, as in typhoid and typhus fevers, hemorrhages from the stomach, bowels, nose, &c., but these hemorrhages were in no sense constant or characteristic, but, on the other hand, exceptional. The so-called black vomit, which not unfrequently occurs in bad cases of our Wilcox county variety of hemorrhagic malarial fever, I have not been able to regard as blood, or partly blood, or even a product of blood corpuscles. Acted upon by acid or morbid contents of the stomach, because however black it may be in mass, when seen in very thin layers, or left as a stain upon body, linen, handkerchiefs or sheets, it is resolved into a deep and permanent yellow; and thereby classes itself, to my mind, as biliary matter —actual bile—instead of altered blood.

I have stood in professional relation to twenty-five cases of hemorrhagic malarial fever, a report of which, with remarks, you will find in the Medical News, Philadelphia, for 1883. The cases were all, without a single exception, of the icteroid hæmaturic variety. You will thus be able to comprehend the reason why I fought so obstinately against the name hemorrhagic malarial fever, and in favor of icteroid hæmaturic malarial fever, when the Alabama State Medical Association had the question before it many years ago. I think that the increasing light of the years that have since passed, has tended to demonstrate that the name I advocated is sustained by scientific accuracy. As to the effects of quinine on the disease, you will find a report by me of 178 cases, in the journal above referred to.

I have had no post mortem. I saw one kidney from a white boy, aged about twelve years, who died of the disease. The organ was enormously distended with blood, and would have weighed, I judge, more than two pounds.

I have kept a record of the pulse and temperature in only one case, which I enclose. It seems to me to indicate traumatism, with the attendant profound nervous shock, more than anything else. I think the kidney the seat of the wound. In this case, the secretion of urine was eventually suppressed.

In the cases that I have seen there has been every gradation of pulse,

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from the small thready pulse, with very great frequency, to the large full gaseous, moderately accelerated one.

PULSE AND TEMPERATURE OF CASE NO. 25, TAKEN MORNING AND EVENING.

1883	Pulse.	M.	E.	Temperature.	M.	E.
October 28	.....	.....	102	.....	.....	102
October 29	.....	108	108	.....	103	103
October 30	.....	120	144	.....	103	102
October 31	.....	108	102	.....	98.5	97.5
Nove'ber 1	.....	90	96	.....	97.5	97.5
Nove'ber 2	.....	96		.....	95	96
Nove'ber 3	.....	96	96	.....	97.5	97.5
Nove'ber 4	.....	102		.....	97.5	

Taken October 28th, died November 4th.

DR. W. W. MC'MILLAN, GLENDALE, MONROE COUNTY.

Hemorrhagic malarial fever does not prevail to any very great extent in this part of Alabama. I have met a few cases, however, almost invariably occurring in individuals who have been long suffering from malarial cachexia. The paroxysm is ushered in by a second rigor, followed by fever, which may be intermittent or remittent, with great thirst, nausea and vomiting. There is jaundice from the beginning, excruciating pains, extreme irritability of the nervous system, with hiccough and a tendency to prostration. The hæmaturic form is most prevalent, though both forms coexist. The blood seems to be intimately mixed with the urine, while that which is vomited varies in its character, being mixed with the secretions from the stomach, mucous, food, medicines, &c. The treatment is, to allay the excessive gastric and nervous irritability by morphia per orem or hypodermically, and by the use of blisters, to relieve congestion, correct morbid secretion, and eliminate poisonous and effete matter by purgative doses of calomel, and lastly, to neutralize the malarial poison by quinia, which is as essentially necessary in this as any other form of malarial disease. In distinguishing the hæmatemesic forms of this fever from yellow fever, it must be remembered that the latter is a continued fever, while the former is remittent or intermittent in character, with greater variations of temperature. I have never made microscopical or chemical tests of the urine or matter vomited, nor have I had an opportunity to make a post mortem examination in any case.

DR. P. R. MINOR, FORKLAND, GREENE COUNTY.

Since the year 1865 I have treated 42 cases of hemorrhagic malarial fever, of which number 10 were fatal. I regret that I cannot give a full clinical history of all the cases. This disease is generally ushered in by a chill, followed by fever of the remittent type, though the milder cases are intermit-

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tent. The hemorrhage or red urine is apt to occur immediately after the chill, to cease with the fever that results, and always re-appear with the next chill. The vomiting is in many cases of the "coffee ground" character, though I have never seen a case where there was this kind of vomit, that was not preceded by the red urine, nor has it occurred in any of the cases under my observation, until after the hæmaturia had been going on for at least 48 hours. The jaundiced hue of the skin is variable in its time of appearance, as well as to its intensity, showing itself first in the conjunctivæ and then rapidly spreading over the whole body, so rapidly does it occur that I have left my patients sometimes for the brief period of one hour, with a natural complexion and found them the color of an orange on my return. The character of the urine also varies in both quantity and color, and I believe the intensity of the attack is in proportion to the color, the severe cases discharging a urine almost black, and in the mild cases it is slightly tinged with red only. As the urine becomes clearer there is invariably a corresponding improvement of the patient. The bowels are usually constipated. Frequently there is pain or pressure in the right hypochondriac region, and fullness. I think the duration of the disease depends upon the more or less rapid elimination of bile from the system, whether by the kidneys or other excretory organs. In a majority of the cases the jaundiced hue of the skin was followed by an improvement, unless there was suppression of urine which is a fatal sign, and is rapidly followed by coma and death. I abandoned the quinine treatment in 1871 because I found out that I could not save the cases by its use, and sought for some other and better plan. I did this reluctantly, because the most eminent medical men of the South endorsed it as *the* remedy, *the only remedy* that we could hope to cure this disease with, or any other disease of malarial origin, and their theory was in accordance with my own. Yet, when I used it, or where I saw others use it, the mortality was great, and when other remedies were used more cases recovered. The quinine plainly and unmistakably aggravated the nervousness and other bad symptoms, often producing vomiting that could not be controlled. The most of the cases that I have seen were treated at first, before calling in a physician, by quinine, for a chill usually occurred first without any hæmaturia, then after taking the quinine another chill, followed by red urine and other symptoms. I believe the amount of blood in the so-called hemorrhage is in most cases greatly overestimated, and that in many cases the red hue is due entirely to the coloring matter of the bile. The effect of this excess of acrid bile must necessarily be an irritating one upon the kidneys, which must be already congested, hence the hemorrhage, which is salutary if not too long continued. I can remember many cases where the hemorrhage would re-appear after it had ceased, as soon as two or three doses of quinine were given, which would disappear as soon as the quinine was abandoned. I can also cite several cases where the leaving off the quinine treatment put a stop to the red colored urine which had persistently gone on for days. As an antiperiodic in this disease my own experience taught me that quinine could not be relied on; in a majority of the cases it had been freely used before I

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saw the patient and the paroxysm with its attendant hemorrhage had followed. With all this evidence before me I can but concur with Dr. E. D. McDaniel, who says: "At best, this remedy (quinine) is dangerous except in very discreet hands." Dr. H. A. Minor, of Macon, Miss., says he "has often seen its administration followed by coma and death." Dr. G. W. Malone, of Indian Bay, Ark., is of the same opinion. These gentlemen have all had great experience in this disease, and all have given the quinine treatment a fair trial. Few men can explain fully the therapeutic action of quinine, and the number is still less who can satisfactorily state how it prevents a chill. Many intelligent medical men are firmly of the opinion that quinine produces uterine contractions, and I think the opinion is general that in certain stomach and bowel diseases its effect is highly irritant. If these statements are true, then is it not probable that quinine in hemorrhagic malarial fever may act as an irritant to the delicate secreting membrane of the kidneys? As soon as I begin the treatment of a case of hemorrhagic malarial fever, I give an active purgative, usually ten grains each of calomel and jalap, and then eight grains of bicarbonate potassa every two hours until the urine becomes clear; hot mustard foot baths are freely used, and every means to promote a free diaphoresis. To prevent a return of the paroxysm I give the following: Pulv. Doveri, 15 grs., piperine, two grs., mix and make into three powders; give one every two hours before the expected paroxysm. This rarely fails to prevent a return of the chill in the intermittent form, and where there is only a remission will often prevent the rise of fever, in conjunction with the other remedies. The bicarbonate of potassa seems to exert an influence over the fever, often reducing it in a few hours so that the Dovers powders and piperine can be used. This remedy (bicarbonate potassa) is hardly ever objectionable to the stomach, and often controls the nausea and vomiting after it sets in; throughout the attack it apparently has an anodyne influence, and acts as a diaphoretic. Opiates act well whether given hypodermically or otherwise. The hot foot baths are very beneficial in re-establishing the action of the skin if it becomes hot and dry. This disease requires a sustaining treatment, and after the second day some mild fluid diet should be given at regular intervals. In convalescence, if the stomach tolerates it, the tinct. of iron is a fine tonic. The convalescence is always slow. Those who have been for a long time suffering from the effects of malaria are the most susceptible to this disease, rarely attacking, *de novo*, those who have not been under a malarial influence for a long time; hence, the fall is the most favorable season of the year for its development. The differential diagnoses I give as clearly as I can, though there are many symptoms common to both diseases:

YELLOW FEVER.	HEMORRHAGIC MALARIAL FEVER.
Epidemic.	Never epidemic.
Pain in back and limbs.	
High colored urine.	High colored urine.
Scanty urine.	Free urination.
Epigastric tenderness.	Tenderness in right hypochondriac region.
Temperature 105° to 107°.	Temperature 100° to 103°.

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YELLOW FEVER.	HEMORRHAGIC MALARIAL FEVER.
Jaundice, followed by improvement.	Jaundice, followed by improvement.
Duration of fever 3 to 7 days.	Duration indefinite.
Third day, improvement apt to be followed by relapse.	Improvement and cessation of fever in remittent form apt to be permanent.

This letter is for you, and of course unfit for publication, unless it is revised. I have now a letter of yours endorsing my theory as to the pathology written in 1871, which was published in State Transactions of that year. I consider it a matter of vital importance that the question of the propriety of the quinine treatment should be freely discussed, and that those men should have a hearing who have met this disease and treated it.

DR. H. C. MOORHEAD, PICKENSVILLE, PICKENS COUNTY.

Your circular of January 22d to hand, and I take pleasure in answering as far as my memory will serve me. I have not had a single case since June, 1876. I have had, in all, ten cases to treat; in all of them the patient was, and had been, troubled with "chills and fever," pale and sallow, with spleen enlarged. I might say all of them from three to ten days had missed their regular paroxysms, and on the return it was a "yellow chill." My first treatment is mercury until I am well satisfied it has caused some favorable signs of the tongue being cleaned by it, and try to give it so the purgative effect will not be on the patient at the time of the next or regular chill time. I gave my last patients that I treated large and frequent doses of quinine, beginning eight or ten hours before the time for the next paroxysm (I gave one patient, aged sixteen years, white female, 120 grains in ten hours per rectum, except twenty grains.) Another physician had her case, and I was called in after she had had a paroxysm on Monday, Wednesday, and Friday. I took the case in hand and told him that if the patient had one more chill or paroxysm that she would die, and I advised him to use quinine heroically. He objected, and would not stay to help give the quinine, as he was of the opinion that more than six or eight grains would do more harm than good. Notwithstanding, I gave the 120 grains, and next evening he came back to see his patient better, having passed the time for the paroxysm finely and made a rapid recovery. I give the quinine by the mouth if there is no vomiting, or, per enema, if there is. If I can cut the paroxysms off, I then give tincture of iron in fifteen drop doses every six hours, with good brandy *ad libitum*, in small quantities. I give during convalescence some preparation of strychnia, and advise a change of location until the patient is fully recovered. All ten of my patients lived in a malarious location. One never had had a chill until she was attacked with hæmaturia, but had a large spleen. I have not, in all my cases, seen any form of blood except from the kidneys, and all were bad cases except one, who did not seem to be very sick. I had no means of taking the temperature, and did not make a record of the pulse. The vomiting began at no particular time after the attack in my cases; they all were troubled with

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vomiting. The jaundice appeared soon after the chill, not later than six hours. As to the condition of the bowels and kidneys, the bowels were sluggish and passed a dark waxy or green matter when aided with drugs, and kidneys quite active from the onset of the disease, except those who died; before death there was a total suppression. The mode of death was from uræmia in all who died except one, and he evidently died from heart-clot.

In your No. 3 of circular, I have already spoken of quinia; it is a sheet anchor. In No. 4, it will not attack a person who has not already been broken down with malaria; it will not attack healthy persons in September, October, and November; mostly, and less so, in August and December. As to its connection with yellow fever on the coast or certain interior localities, I am not able to say. My opinion is that it has no connection. In Pickens county the cool weather or the first frost is dangerous to the person who is subject to chills, large spleen, and is generally broken down from malaria and its influence on the person living in malarious sections. In my ten cases, four died and six made good recoveries, and has been less influenced by malaria than before the yellow chill, as it is commonly called in this county.

Doctor, I hope you can arrange this report—I know it is imperfect. It has been several years since we have had any of it in this section, except a very few cases in the county. At the time I treated my ten cases, there was no system of record in the profession in the county of Pickens. The following is a statement of cases as seen by me: No. 1, white female, age 38, died; No. 2, white female, age 9, died; No. 3, white female, age 6, died; No. 4, white male, age 37, died; No. 5, white male, age 24, died; No. 6, white female, age 22, recovered; No. 7, white female, age 14, recovered; No. 8, white female, age 7, recovered; No. 9, female, age 10, died. This case was the grandaughter of a half-breed, her grandmother had a white mother and black father; her mother was the child of a white man, and her father was white. She was one-eighth negro the way I count the generations. This is the nearest negro I ever knew to be affected with "yellow chills." No. 10, white male, age 40, died. I find I have had six deaths and four recoveries.

Dr. Cochran: I want to report an interesting case of yellow chills, not in my practice, however, from the beginning, but recently reported to me as well as to prescribe:

Mr. B., white, age 18, came under the treatment of Dr. B. F. Wilson for yellow chills in 1870. His case was bad, turned very yellow and discharged a large amount of bloody urine and recovered. In 1873 he married and has lived in this county since, except one year in Florida. His general health has been good, except recently a few chills. On January 28th had a chill; on the 30th had chill and fever, and began to have copious actions from kidneys and very much like blood, and felt a good deal like he did when he had yellow chills in 1870; sick at the stomach, but did not turn yellow; began to take quinine, and in a week's time was well. On February 7th had intercourse (sexual) with his wife, and again on the 9th; on the 10th of

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February his wife told him her courses was on her, but was well on the 13th February; at night had intercourse again, and his wife on next day told him her courses had returned. Mr. B. says he then believed that there was something wrong with himself, and on the night of the 14th of February he had intercourse, and he and his wife arranged for withdrawing, and did so and caught the semen on a towel or napkin, and found on examination that it was as red as blood. There was no more intercourse. (Mr. B. has been living twenty-four miles from this vicinity since January 1st, 1884.) On February 28th Mr. B. came to my office; had been away from home a week, and while at my office reported what had taken place with him, and informed me that on the night before he had a nocturnal emission, and as soon as he awoke made a light and found the semen as it was on the night of the withdrawal; he then showed me his linen, which I saw stained as much as if his nose had bled on his shirt. He informed me that on the night of his congress and the night of the withdrawal and the time of his nocturnal emission, he possibly had a little fever. His wife's reason for calling her husband's attention to her own self, was that she saw her clothing stained like menses, but did not think it time, and felt not the least like she was sick.

I asked Mr. B. for the privilege of this report, which I regard as a remarkable case, and am of the opinion that the chill the latter part of January was a veritable yellow chill, except the yellow skin. I believe now, since thinking of Mr. B.'s case, and from what I have seen in my direct practice, and that great pathological change which takes place, that all persons (males) who have yellow chills, that the semen would be like Mr. B.'s, if it was possible to see it. While Mr. B. had this discoloring of the semen, his urine was normal and an excessively large amount voided regularly.

DRS. J. P. MUSHAT AND JOHN A. PRITCHETT, HAYNEVILLE, LOWNDES COUNTY.

There has occurred in this vicinity in our practice, or to our knowledge, thirty-nine cases of hemorrhagic malarial fever since its first appearance here in 1865, with twenty deaths and nineteen recoveries, giving a mortality of over fifty per cent. Some of the recoveries were slight cases. We have kept no clinical records of cases, and write only from memory. The type of the fever was sometimes intermittent, but most generally remittent, neither pulse nor temperature running very high. We have never seen any hæmatemesic cases that were not at the same time hæmaturic. The bloody urine generally appeared soon after a chill, and the jaundice along with it. Both these symptoms increased with every repetition of the chill. The bowels were generally constipated in the beginning of the attack. The kidneys were over-active in the beginning, excreting the bloody urine in large quantities. Later on there was frequently suppression of urine, a symptom which, in our experience, has been invariably followed by death, even in cases where the other symptoms seemed favorable. The duration of the disease was very variable; some cases terminating fatally in from twenty-four to thirty-six hours, the patient dying comatose. One patient

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died with convulsions in thirty-six hours, supposed to be caused by uræmia; others lingered for several weeks and finally died by asthenia, after convalescence appeared to be almost established. Some that recovered were a long time (two or three months) in regaining strength. The prostration is extreme and rapid. The first cases treated in this neighborhood were by large doses of mercurials and enormous ones of quinine. Of late years we have given smaller doses of quinine, say twenty grains during the twenty-four hours, and minute doses of calomel combined with opium and ipecac. It only occurs in highly malarious sections, and in persons who had the malarial cachexia. A few of the cases, however, had had but few chills previous to the development of the disease. It has generally occurred in the fall and winter, but may occur at any season. We have never seen a case of yellow fever; and can say nothing about the differential diagnosis of the two diseases.

We send you a letter from Dr. Orendorf, of Mississippi, which may prove of interest:

LETTER OF DR. T. T. ORENDORF, OF MISSISSIPPI, TO DR. PRITCHETT.

I regret very much indeed that my prolonged absence from home has delayed a prompt response to your letter of the 18th of January. I am not aware that any publication has been made regarding the treatment of malarial hæmaturia with strychnia, except an incidental reference to the subject by Prof. Holloway, in the Medical Herald, some two years since. That was prompted by my suggesting to him the use of strychnia in a case of walking hæmaturia he called my attention to, in his office in Louisville, some two years ago. The disease is not so frequent or prevalent in this country as it was eight or ten years ago. My experience with the strychnia treatment goes back to the fall of 1878—or as I style it, "the hypodermic treatment of hæmaturia." Since that time I have treated twelve typhoid cases with complete success. Before that time, for several years, I had tried the heroic treatment, with mortality ranging from fifty to seventy-five per cent. I have not lost a single case since 1877, and I have had some cases every year, with the exception of 1880, when I was absent during the year.

To begin with, then, your patient must have your personal supervision, and almost constant attention; you cannot treat the case by proxy, or something will go wrong. I always begin the treatment with some cathartic, say calomel and podophylin, enough to produce three or four good actions. The calomel to be continued, in one-fourth or one-eighth grain doses, once or twice a day, or every other day, keeping the bowels gently open until the hemorrhage has been checked. This is the only medicine I give by the stomach. The fact is, in my opinion, the stomach is not in a condition to absorb anything. It is just like throwing medicine into a "slop-bucket," to use a homely illustration. As soon as the chill is off (all my cases have been ushered in by chills) I have the patient undressed, a sheet wrung out in cold water and the patient wrapped carefully up in it. I have the sheet sprinkled all over every half hour or so, and kept on until there is a decided

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reduction of temperature—until it begins to feel uncomfortable to the patient. I have used it several days in succession with great comfort and relief to the patient. I rely upon the wet pack as one of the best agents in the treatment of this formidable disease. If we keep the skin and bowels acting, we will never have suppression; the poison will be eliminated by these channels, and the overworked kidneys have rest and time to recuperate before any organic change has occurred in them. If there is much pain in the limbs, head, back, &c., I give one-third of a grain of morphine hypodermically – this I mean in the beginning of the attack, more afterward. To procure rest at night, which must be done, I give from five to ten grains of hydrate chloral, hypodermically, to be repeated if necessary—push it, if sleep cannot be obtained, until you do get it. I like it better than morphine, because it does not interfere with the secretions, nourishment, &c. Then I commence with the hypodermic use of quinine, strychnia and tincture of veratrum or aconite if pulse is high. I do not wait for the temperature to decline to begin the administration of the quinine or strychnia, although the wet pack usually has a most salutary effect in that respect. I give from three to five grains of quinine dissolved in sat. solution of tartaric acid, or the aromatic sulphuric acid, and 1.32 to 1.24 part of a grain of strychnia, dissolved in acetic acid and properly diluted, with the aconite or veratrum, all at the same time, hypodermically, every two or three hours apart. I increase the quinine to ten grains, and the strychnia to 1.16 or 1.08 grains, if the attack does not yield as I think it should do. I have never had any bad results from the strychnia. Of course you must watch your patient, and when you find muscular twitching lessen the dose, or lengthen the interval. My experience is, Dr., that the remedies must be pushed and the therapeutic and physiological effect maintained until the disease has yielded. Not only that, but they must be kept up some time afterward, or you will have relapses. I repeat that the medicines must be given for their specific effect, and pushed until you get it, regardless of what the books teach. Your experience in a few cases will give you more points, as regards minor details, in the treatment, which are very important, than I could write you in a week. Liquid nourishments and stimulants, of course, are very important elements in the treatment, with imperative instructions to remain in bed until convalescence is well established. The patient should not be allowed, under any circumstances, to make the least exertion. A good nurse is very essential to assist them in turning over in bed, and attending to the calls of nature. A bed-pan must be used, the patient not being allowed to get up, as the least exertion is detrimental and frequently fatal, after you think your patient is well, from heart failure.

Now, Dr., if I have succeeded even in giving you one item, wherein you will be profited, I shall feel deeply compensated, and will cheerfully give you any further information I possess in regard to this disease, if I have not made myself plain.

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DR. J. C. NICHOLSON, MT. MEIGS, MONTGOMERY COUNTY.

I commenced practice here in January, 1856, and did a moderate practice until November, 1861; never saw or heard, or read of a case of hemorrhagic malarial fever up to then; was a surgeon in the army (cavalry) till its close, with the same result, except as follows: In January, 1865, I was at home on furlough; was sent for by my uncle, John H. Cogburn, aged sixty-two, who lived five miles west of Montgomery, on the Washington road; I found that his physician (Dr. Mac Oliver) thought him sick with hæmaturia, that is, ordinary hemorrhage of the bladder, and would soon get over it. His symptoms were: two nights before had had a chill, attributed to exposure; had had occasional chills (malarial locality, but he did not spend all his time there), otherwise a vigorous man; I was told that he had passed large quantities of bloody water; had some fever; mind drowsy; slight discharge of port wine urine; bowels nearly normal; slight sick stomach; no vomiting; skin of a yellowish color; tractable, yet indifferent as to his condition and the result. I suggested consultation to Dr. Oliver, which was readily agreed to. Dr. Baldwin was sent for, but Dr. Robert Wilson (Irish Wilson), of Montgomery, came; his diagnosis was Bright's disease. Dr. Baldwin, ten hours afterwards, came; diagnosis, inflammation of the bladder, I think. All agreed that he was a very sick man, and would probably die. He gradually grew worse; yellow urine, less and less in quantity, and nearly natural in color, until it finally ceased altogether (hence my diagnosis was iscuria). I could, at first, get only a tablespoonful of a clear ropy fluid from the bladder by a catheter, and soon nothing at all. His drowsiness gradually deepened to coma; his skin cleared up (don't know when), and he died on Wednesday—taken, I think, on the previous Friday night.

The object of dwelling on this case is to try to fix, or approach, the time of the appearance of the disease in this section, for I am certain that neither of the three doctors, who saw the case then, pronounced it hemorrhagic malarial fever, or was such a name or disease thought of, or discussed, yet all the doctors stood fair, and three of them at the head of the profession, with large city and extensive country practice. This is to combat the assertion of some doctors, that it is no new disease in this section. I have not a doubt now but that it was hemorrhagic malarial fever, and think the others would agree with me if I had asked them, which I never did (two now dead); Dr. Baldwin may recollect the case.

Nothing is remembered of the treatment, except that the doctors disagreed that the treatment was not exactly what each one would have done if he had had the case alone; think quinine was given in the outset, but not certain.

In the summer and fall of 1865, after my return from the army, I did a considerable country practice, but saw nothing of the disease. In the winter of 1866, I was called to see a son of Hugh Caffee, five miles east of Montgomery, aged eight years; thought he had simply chills, but his mother called attention and seemed alarmed about the bloody urine. I, with great assumed wisdom, called for a piece of white linen and dipped it in the

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urine and dried it—when only a brown stain was left—and exultantly told her that it was not blood, and that he would soon be all right. I had forgotten the other case and had never heard of anything like it, and so masked my ignorance by assuring her that it was nothing but masked chills, that there was no necessity for alarm; and treated the case with quinine and placebos to a happy termination. (Light case).

Not long afterwards I was called to Vincent Cogburn, youngest son of the first case, aged seven. With the same assumed wisdom; the same quinine, and placebos, and the same result. (Light case). This case had annual and semi-annual attacks for several years; one or two while he was in Brazil, and three more after he came back, until he was about twenty years old—all light, but well marked with the usual symptoms, except vomiting and suppression.

The next case in 1866 was Mrs. Ward, aged 50; all the usual symptoms were well marked except suppression; treated it as I would a case of remittent fever, except I gave quinine heavier; I always relieved the bowels with compound cathartic pills, or something of that sort. She was quite sick but recovered. Several similar cases succeeded these, with similar treatment and results, but mostly with the young, and all cases light.

About this time I began to hear of a new and fatal disease, five miles above me, and upon learning the symptoms I found that I had been for a year treating the same with uniform success, whilst most of their cases were treated with uniform failures. My cases had now reached 16 in number and no death, except the first (Cogburn). My fame began to be noised abroad as the most successful "yellow disease" doctor, by which name others were calling it, and which I adopted. The doctors interviewed me and wished to know my treatment, that gave me such unheard of success (which they doubted). My reply was quinine! quinine!! quinine!!! first, last, and all the time in double the usual doses. They tried it and most signally failed. I was sent for in consultation, and with them depended on it for a sheet anchor, but *horribile dictu!* failed. I fell back behind the subterfuge that they were not my cases; that a doctor could not be expected to cure such unless he saw them *ab initio;* they took me at my word; I was now sent for when the first symptoms appeared; treated with great confidence as I had previously done with my own cases—that is, moving the bowels with a mercurial cathartic, drinking largely of bicarbonate of soda water; sometimes giving spirits turpentine, but depending wholly on quinine, with the result of the most humiliating failure, not only in those cases I was called to see outside of my practice, but even in my own sphere. The rule was now death, and not recovery, as heretofore. I found most of the cases who were under 20 years old would get well, while those over twenty generally died, *sooner or later.* I say that because several cases, after being, as I thought, at death's door, gradually improved, that is, the color would clear up, the iscuria or suppression would slowly give way, and the appetite and strength return for awhile, but still with a slight, low grade of fever, which would continue for from four to six weeks, to which the patient severally and eventually succumbed, and to which I gave the name of the typhoid term-

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ination, for such cases had every appearance and symptom of a genuine case of typhoid fever—not those semi-typhoid symptoms that follow in the wake of other acute diseases, but the true lesions of the glands of Brunner and Peyer, such as epistaxis, sore throat, fossal tenderness, tympanites, emaciation, want of sleep, jactitation, uniform pulse, and temperature of about 100°, &c. I think it was in 1867-8 that I bid the disease defiance, that in 1869-70 it began to be with fear and trembling that I treated a case (frequently with untoward results), until finally I came to the conclusion that I knew nothing about the disease; that no treatment was a certain cure of all cases; that there were two sorts of the disease, the killing sort and the getting well sort, that is, many cases would do as well with comparative little treatment and get well, while others would die in spite of the most and best treatment. And even now I am almost of the same opinion, that is, we have no specific; have doubts about quinine doing any good, and fear that it may even be positively hurtful if heroically given. Of course I would not treat such a grave and rapid disease entirely on the expectant plan, but would treat it *pro re nata.* It frequently yields after almost all hope is gone, *i. e.*, after the suppression has existed for some time, which I think is the most fatal sign. I have seen a few recover without going into the typhoid. I saw one case after suppression had existed for nearly 48 hours, (Dr. Robt. S. Williams' son, Will Tom) of Mount Meigs, speedily relieved, as we all thought, by hypodermic application of pilocarpin. This case, the only one I ever saw it used in, wonderfully illustrates the power of the drug, if not its beneficial effects on the suppression. The patient, aged about 18, had been sick with it about a week, with no favorable change, until, as we thought, he had the inevitable prodrome of dissolution, viz.: complete suppression. Upon the recommendation of Dr. Walter Jackson, of Montgomery, Dr. Williams inserted a small dose of pilocarpin in the arm. Almost immediately after it was done—before the doctor could put away his syringe—the patient exclaimed: "Papa, you have killed me; oh, oh! I am dying;" (he had never been comatose, but flighty and intractable); his pulse, if I recollect aright, was slightly lowered; he seemed to labor under a terrible certainty of approaching and speedy death, which the re-assurance of all present would not dissipate, and in less time than it has taken me to write this page (a few minutes) he was bathed in a profuse perspiration; indeed, they were all not certain but that the patient was right, and would soon die from the dose; (I was not present). In less than half an hour his linen and bed linen were saturated with perspiration, so much so that not only his garments and bed linen had to be removed, but the mattress of the bed; as soon as this was done he dropped into a calm sleep, the first for some time, and in six hours or less time had a good action and passed several ounces of urine, but preternaturally clear. Every symptom from then on rapidly improved until the urine was not only restored to its normal quantity, but excessive diuresis surpervened, so much so that we again began to be fearful of the termination, and Dr. Williams thought he had a case of albuminuria, and treated him accordingly, with a perfect but slow

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convalescence. Whether it was a *proptor hoc* or a *post hoc* of the administration of the drug I leave you to judge.

I saw another case, Mrs. William Taylor, wife of William Taylor, now Street Superintendent of Montgomery, eight miles east of Montgomery; very malarial locality; saw her soon after she was taken, and being demoralized as to my capacity to treat the disease, I called in Dr. James Freeney, who at that moment was passing. Dr. Freeney and myself had changed positions, that is, at first I claimed to cure all and he admitted he lost nearly all, now I was losing a large per cent., and he claiming that by a new treatment he was saving all. This treatment was teaspoonful doses of turpentine and a saturated solution of bicarbonate of soda, *ad libitum*, also quinine freely, but not heroically given. We agreed, and at the outset we thought that all was well. The paroxysms, if she had any, were subdued, the skin, after being excessively yellow, began to clear up, the urine, which had been port wine, was clear, her excessive sick stomach and port wine vomiting ceased, her mind was all the time clear, the suppression, which had been almost complete, began to give way. Yet, in 48 hours from this she was a corpse, retaining vividly every faculty until in *articulo mortis*, not having passed a drop of urine in 24 hours before death, nor could a drop be got by the catheter. Dr. Freeney from then on lost many other cases on his hobby of the soda and turpentine treatment.

Other cases and facts are now looming up in my mind, but the figures "12" at the top admonishes me to desist. But I will risk one more, that of my own sweet, precocious little daughter, aged nine years. She had been having chills about a week previous, that is, the last one. On Monday morning her mother discovered the ominous sign in the chamber, after the child had been dressed, and, as she thought, in her usual health, for the evening before she had been romping. She was reluctantly induced to take her bed, and we commenced the quinine. I was not at all disturbed, for then I thought I could master the disease, and thought it child's play when the patient was under 10, but thought it best, also, to have Dr. Freeney to treat the case, as he was then running his new hobby of soda and turpentine. She was lying in the bed most of Monday playing with her dolls, but early in the night she was taken with a chill, or rather with rigors, and it was a long time before reaction, if at all, took place. On Tuesday she was worse, pulse feeble, and about 125; not much heat, listless, but sensible, passing much bloody (so-called) urine; bowels normal; very sick stomach; with green and yellow matter ejected; only slightly yellow skin. This continued until Tuesday night at 12 o'clock, when she seemed to rally, but was quite stupid and disposed to sleep. She continued, as we thought, to improve until Wednesday at 9 o'clock a. m., when we thought her pulse was not so strong. At 10 a. m.. Dr. Freeney turned her over on the other side, and in a half minute she was dead, and so easily that it was hardly observable. He and I thought that the change of position hastened, if it did not cause the death at that particular moment. She at no time was, as we thought, in immediate danger, not doubting for a moment at any time but that we could save her, and when we realized that she was dead, we were

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almost as much startled as we would be by a clap of thunder in a cloudless summer sky. From the time we knew she was sick until life ceased, it was only forty-eight hours, only twenty-four of which were we solicitous of her recovery—*i. e.*, thought her much sick. The treatment consisted of quinine on Monday until the rigor, and quinine on Tuesday and at night, but not largely; also of soda water drinks and an occasional dose of turpentine (half teaspoonful), and a dose of salts; do not think we gave her any opiates; maybe something for nausea. The locality was malarial; she had an occasional attack during the fall (it was the 24th of October, 1874).

I will now, to the best of my recollection and ability, answer the points in your circular, but you will find it sadly—inexcusably deficient—and indefinite, as well as unsatisfactory:

1. Hæmagastric Variety.—Suppose I have seen fifty cases of both varieties of the disease, and that one-third of that number had what is called the hemorrhagic vomiting, that is, dark colored or coffee ground ejections. Do not recollect what proportion of them died, but not all. Cannot recollect what number died of either variety, but will approximate by guessing that, out of fifty cases, at least ten died, and probably more. Type of fever was thought to be remittent, but of this there is some doubt. Range of temperature and pulse not high. Vomiting would commence on the second day, about the time the jaundice was well established.

Vital Organs.—Bowels frequently normal, but sometimes passing dejections much resembling the urine and the vomiting in color and consistence; kidneys active at the outset, but soon lessen when the urine would begin to clear up, and when clear, would be very scant or entirely suppressed. Duration three to seven days, unless it assumed a typhoid type, then from four to six weeks.

Mode of Death.—Generally commencing with drowsiness, then coma and death in twenty-four to forty-eight hours, but sometimes the mind remains clear to the last, even under prolonged iscuria; generally peaceful and quiet, but I saw one case of a vigorous young man who was delirious soon after it was discovered he had it, which was in the field while at work; he had had no previous malaria, and not in a very malarious locality. By the same or next night he was raving, requiring many to hold him in bed, during which he passed a large involuntary, yet a very solid hard action, perfectly natural, and soon died, it seems to me now, in less than thirty-six hours after he left the field. Nearly his only symptom of disease was his delirium and port wine urine, neither temperature nor pulse being much above normal. Treatment not recollected—not my case.

Treatment and Effect of Remedies, etc.—At the outset, we thought quinine the sheet anchor, but have weakened on that; in fact, I cannot say that it does much good, though I never treated or saw treated, a case without it. Morphine, hypodermically, is undoubtedly of great service in allaying the excessive nausea and vomiting, and gum fetid is good for the hicough that rarely shows itself; have also used tincture of iron, and some think that atropia is the remedy. In the getting well variety all medicines seem to do good for the symptoms for which it is given, but in the killing

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variety nothing seems to give the slightest check; yet some desperate cases do recover in spite of treatment.

NATURAL HISTORY.—In regard to the influence of malaria in its production, will say, I think, whether malaria produces it or not, that a malarial locality is necessary for its production. Generally those who have had malarial attacks are more subject to it, but have known cases of it not produced by any malarial attack, the *de novo* being the exception to the rule, but always a malarial locality. Yet that does not prove that it is produced by what we call malaria. Might it not be another unknown specific poison *sui generis?* We frequently have typhoid remittent, and other fevers in the same locality at the same time, and even yellow fever; yet we do not contend that all are the result of malaria, nor am I now certain that hemorrhagic malarial fever behaves like marial fever with marked exacerbations, and have already expressed doubts about the efficacy of quinine, which we think is sure death to the algæ of malaria. It may occur at any season, but usually from September to February.

DIAGNOSIS.—It can be confounded with nothing else but yellow fever, but having never seen a case of that, can give no differential diagnosis between the two, but from what I have heard and read on the subject, I think if it were possible for the two diseases to be in the same house at the same time, that both would be called malarial hemorrhagic fever, or both yellow fever, according to the probabilities of the one or the other in the opinion of the expert, the correctness of which would of course soon be established by the contagion of the one, and not of the other. But in localities where yellow fever is not contagious (if there are any such), I think it would require a *post mortem* to determine; having never seen a *post mortem* of either, I cannot say that even that would remove all doubt. Of the hæmaturic form, what I have already said covers all that I know. I do not believe, as your question seems to indicate, that there are two forms of the disease, or that the hæmaturic takes the place of the hæmatemesic in the other form, or *vice versa*, but think it one and the same, and of course aggravated when combined, for I know I have seen both, as well as port wine dejections in the same case. It is only an additional symptom, as we sometimes find epistaxis in typoid fever, and sometimes not—yet who talks about the epitaxis variety or form. I regret that I cannot give you the details of treatment and symptoms, *post portems*, or anything like a clinical history of the disease. The more is the pity; "would I were a boy again," I should do better. Now, doctor, you have what I don't know about the "yellow disease." I don't like the malarial part of the name much, and the hemorrhagic less, though I can't say it is not both; yet whoever saw a well defined blood corpuscle under the microscope, either from the urine or the vomit? I know some claim to have done so—some say Liebig has, and I know that when I took a specimen of the urine to Montgomery and got an "expert" to put it under the glass, and asked him if he could see any, he said: "Yes, yes, beautiful, beautiful, my dear doctor, just look for yourself." I did look, and saw what might have been milk or pus, or mucus, or it may have been "broken down corpuscles," as he afterwards called them; but I saw no such dollar-like piles or strings as I did see when I pricked my

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own finger and put the blood under the field; yet, if it is not blood, what is it? Could the kidneys or spleens throw off any such cast which mingled with only the coloring principle of the true blood, which disease had caused to be repeated, or prevented combinations, and which, when mixed with the effete matter thrown off by the kidneys, produce the port wine urine which might somewhat be likened to frozen ink when the water leaves the coloring matter?

I forgot to say that I never saw a case of the disease in an African or even a mulatto. Nor never saw a case of splenitis in a negro. Do they have spleens? Who ever heard of an enlarged one? May not the spleen have more to do with this disease than is supposed? But I must close. I thought at the outset I would only write you three or four pages, but it is now twenty, for which I ask your pardon. If you can find one grain of wheat in this mass of chaff I will be repaid. All I ask of you is, if I have made myself ridiculous that you will tell no one but me, which I insist you must do. There is some doubt on my mind about the number of cases I have had and the number of deaths—it may be more or may be less than I have stated—but I have tried to be truthful. Sift what I have said and use it as you think best, if at all. I shall not be hurt or disappointed if you throw the whole in the grate before you are half through reading this.

And now, Dear Doctor, let me say, that though you have not met me often, scarcely sufficient to know or locate me, yet I know of you long and well. Let me repeat to you what I have said to others: that Alabama owes to you, and to you alone, a debt of gratitude, both the professional and the lay, for the high position you have caused her to assume in the *medico* legal nitch of fame. Yea, not only Alabama, but the whole Union, should sing and are singing your praise for the advanced position you have caused the profession to occupy, which is alike beneficial to the public as well as the brotherhood; and when you die (which God grant may be in the far future) the shaft which marks the spot, and points heavenwards, should bear the inscription—

"To the Father of Legalized Medicine!"

In a subsequent communication Dr. Nicholson writes as follows:

Before I got your last letter, I had determined to write to you, and say, upon reflection, that I thought that I had overstated the number of cases of hæmatamesis in my thirty to fifty cases of hemorrhagic malarial fever. I cannot now call positively to mind more than three or four cases, but I have a decided impression, amounting almost to a certainty, that there were others. Two of the cases recovered from the hemorrhagic malarial fever, but succumbed in a few weeks to typhoid; the other, of iscuria, after we had thought recovery possible; the other recovered in a week. I think now one-sixth of the cases will cover all of the hæmetamesis, but even this is indefinite.

Question 1. Always preceded by other kinds of vomit, and always by a yellowish; then a greenish; then dark green and specks; then port wine.

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2. The vomiting generally occurred in twelve to twenty hours, even before and while the skin was getting yellow; this would continue but a few hours, and would be changed into the black or port wine.

3. There was always much nausea with the port wine, but not so intense as at the outset, before it assumed that hue, and the black vomit lasted more or less, but gradually lessening until the urine began to get lighter; and, if I recollect correctly, would cease when the suppression was complete.

4. I never saw a case of hæmatamesis without hæmaturia, where the yellow skin was wanting, but have seen some cases of what we called "bilious fever," when the patient would vomit up something very much resembling the vomit of hemorrhagic malarial fever (port wine), or rather darker; but there was no yellowness of the skin, as well as no bloody urine. In all the cases I ever saw the port wine urine preceded every diagnostic symptom; sometimes the first premonition of approaching sickness, the patient not knowing he was sick until he was horrified by the bloody urine.

5. I cannot say whether, when the urine cleared up, it was albuminous or not, but in one case already mentioned (Dr. Williams' son), we know it was, but this was long after both the color and quantity had been restored, which is not what you want. I am inclined to think that there is albumen in it, as it clears up, or at least will throw down a deposit by heat; and I think I tested one case after, though it was very scant and very limpid. My recollections are that there is always much nausea while the vomit lasts, no matter of what color it is, but diminishes as it grows older, and that all forms of it are ejected by retchings, not simply spit out, or flows out, or expectorated. But there was one case in my neighborhood which I did not see, it being Sweeney's case, and assisted, I think, by Dr. Williams, which I now distinctly recollect. His father-in-law, Mr. LaFayette Murdock, says that he lay for hours with the black stuff (I think he said black) gulping out of his mouth without any effort on his part, and without much apparent nausea. There may be enough in this case to excite your attention, as it was suspected that it might be yellow fever at the time, as it was claimed by some that there was a bare possibility for exposure, but I think denied by him. The case was Mr. Ben Merriwether, and Mr. Murdock and family, of Mt. Meigs, can give you the unofficial information, and it may be that Dr. Williams, the official, can, Dr. Freeney, his doctor, being dead. I always, from what I had heard only, thought that it was possible for it to be yellow fever: I wish you would investigate it. I think, from your description of "white vomit," I never saw a case of it, though, of course, I have seen in children and adults what we call "water brash," and, sometimes, what I thought to be mucous, but which would float.

My recollection is that the vomit of this disease is never colorless, *ab initio*, and never black or redish, *ab initio*, but assumes that hue by age, that is, as the disease progresses; and is, in a great degree, synchronous, that is, keeping pace with the color of the skin (and the color of the urine, too, but not

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so marked), and the retrograde of the movement is *pari passu* with all three of the symptoms—when all three are present.

Now, Dr., I have complied, as well as I can, with your request, but which, like my first, is more impressions than facts; and while I feel flattered that you think my article too good for the waste-basket, yet I protest against its ever seeing any other light than your own eye, at least unless it is re-cast and re-written. It was written too hurriedly, and without sufficient positive data to do myself justice, and what is of far, far more importance, too crude, and, in one sense, too unreliable to be put upon record for the inspection, and it may be, to some extent, guidance of the profession, if endorsed by you, in the form of an official publication. It was written in an unguarded, easy, confidential style, intended only for your eye, or that, possibly, of your assistant, from which you could make your own deductions. If, however, you should still think there is anything in it sufficient for others to see, you must prune, cull and dress it, and restore its equilibrium. *Verbum sat.*

DR. J. T. PACKER, MONROEVILLE, MONROE COUNTY.

I fear my experience in malarial hemorrhagic fever will be neither interesting nor instructive, as I took no notes of the cases at the time I was attending them. I have been engaged in the practice of medicine 11 years, and have had only four cases of this fever. The first case I saw was in the fall of 1872, when I was only a first course student; was practicing, but had not graduated; was associated with Dr. James Jenkins, an old and skillful practitioner. He was called to see a patient of his, a young lady, aged about 17, at about eight o'clock, p. m., (I do not recollect the date). I was passing the next morning at about eight o'clock, returning from visiting a patient, and was called in to see her; she was very yellow, almost bronzed, sick stomach, incessantly vomiting a black looking fluid, hemorrhage from kidneys every few hours, urine very bloody and of a dark, smoky hue, pulse quick and rather weak, general appearance very unfavorable, restless and tossing about on the bed. Dr. Jenkins informed me she was taken with a chill about seven o'clock the previous evening; he was treating the case with blue mass, tincture of iron and quinine. I suggested to increase the mercurial treatment by adding calomel to the blue mass to secure its action on the liver, and to relieve the severe constipation of her bowels; also, suggested chlorate potash, and to increase the quantity of quinine. There was great congestion of the liver and spleen and all of the abdominal viscera. The mercury was given in large and increasing doses until she had taken a very large quantity, I don't remember how much, but I think from 75 to 100 grains. After giving so much mercury, and no action from the bowels, I insisted on giving croton oil about six o'clock, p. m., she still having hemorrhage and black vomit, but Dr. Jenkins, being more prudent, decided to try the effects of enemas until next morning, 36 hours after her attack; having failed to secure an action from the bowels, he resorted to croton oil, first by enemas, which failing to have the desired

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effect, he gave it in half drop doses every hour or two, and had the satisfaction of getting good, bilious discharges from the bowels that evening, nearly 48 hours after the commencement of her attack. As soon as her bowels acted well all the congestive symptoms began to subside, sick stomach and black vomit ceased, also the hemorrhage; the fever lasted about five days, of a remittent type, but with no entire intermission. She recovered, and had, I think, three more attacks of the same fever in the next three or four years. She died two years ago of what her physician called "typho malarial fever;" (I am not willing to acknowledge there is any such a fever).

The second case was that of a gentleman, aged about 25 years. He took a chill in the early part of the night; I was called to see him in the course of four hours from commencement of the chill; found him with considerable fever, liver and spleen enlarged and congested, skin yellow, having hemorrhage from the kidneys every few hours, sick stomach and black vomit, but not so much sick stomach as with the first case. Treatment: mercury, quinine, tinct. of iron and chlorate of potash. I succeeded in getting good, bilious discharges from the bowels in about 12 hours, when there was an immediate and decided improvement; vomiting and hemorrhage both ceased; had a fever about 36 hours, of a remittent type. He recovered, has had no attack since, and is still living.

The third case was a gentleman, aged 38 years. He left Pineville for Monroeville (a distance of 20 miles) on horse-back; had three chills on the road before he reached here, about night; he went to bed about nine o'clock and had another chill; about two o'clock the same night his friends becoming alarmed, sent for me; I found him with fever of a congestive type, almost collapsed; skin yellow, with rather a purplish hue, pulse weak, feeble and rapid; everything indicating a congested condition of the whole system; tongue black, also the fauces; treatment the same as in the other cases, but he died about 60 hours after reaching Monroeville. I neglected to state that he had black vomit and hemorrhage of the kidneys from the time of reaching Monroeville till he died.

The fourth case was that of a negro man, aged about 35 years. He was taken with a chill, black vomit and hemorrhage of the kidneys coming on in an hour after the commencement of chill. Treatment the same as before; fever, remittent type and lasted about three days; he recovered. I kept no record of these cases, so I cannot give a statement of the pulse nor the respiration; had no thermometer, so cannot give the temperature—but all the cases had been suffering for some time previous to the development of "yellow chills," or "malarial hemorrhagic fever," with chills and fever. I have never known a case to occur unless the patient was in bad health or had been suffering previously from chills and fever. All these fevers were of a remittent type, and the black vomit and hemorrhage, also yellowness of the skin, came on within a few hours after the chill made its appearance. I did not examine the black vomit very closely; but it was very dark, yes, black, and I supposed it was composed probably of some bile, and of blood that had been acted on by the gastric fluids; it resembled very dark or

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black coffee grounds. I have noticed the greenish, black bile and sediment that is sometimes thrown up in other fevers, but the vomit of malarial hemorrhagic fever is entirely different, and while I have never seen a case of yellow fever, or the vomit of yellow fever, I am satisfied the matter vomited in both diseases are exactly alike in appearance, and don't believe that they could be distinguished from each other unless by chemical analysis, and I doubt if that would disclose much difference, but the course and symptoms of the fever are entirely different, and I have never known a case of malarial hemorrhagic fever where the patient had been in good health prior to the attack. It always, I think, attacks persons who have been exposed to malaria, and have had their systems enfeebled by the fever previous to the attacks of malarial hemorrhagic fever.

DR. B. H. RIGGS, SELMA, DALLAS COUNTY.

Number of cases, 15; number of deaths, 1. I have no experience in regard to the hæmagastric or hæmatemesic form. Do not now remember to have ever seen a case. I have been practicing medicine here for nearly twenty years. The hæmaturic form is quite common here and in the neighboring country. I should think the rational diagnosis between the hæmagastric form and yellow fever would be very difficult, and almost impossible in an acute and rapid case. I do not believe that hemorrhagic malarial fever is ever epidemic. I should say if there was an epidemic fever with cholæmia and hæmatemesis here or elsewhere, that it was yellow fever and not hemorrhagic malarial fever.

Aitken, Sci. & Prac. Med., vol. 1, speaks of a malarious yellow fever, Febris Icterodes Remittens, which prevails in tropical America and other tropical countries, but which is not contagious, and which is not attended with the presence of blood or albumen in the urine. This fever resembles yellow fever closely, but should not come under the head of hemorrhagic malarial fever. It does not prevail as an epidemic, but a number of cases may occur in the same neighborhood in the course of a season, and presents no evidence of contagiousness or infectiousness.

I have seen a good many cases of the hæmaturic form. I performed a thorough post mortem on a case, a few years ago, and published it in the Louisville and Nashville Medical Journal. The main features of this case were the extreme exsanguination, the grumous condition of the blood of the portal vein, the abundance and viscidity of the bile in the gall-bladder and the slightly enlarged and mahogony looking condition of the kidneys.

Several years ago I published in the New Orleans Med. & Surg. Journal a hypothesis of the intimate pathology of this malady, in which I termed it "Purpuræmia." The term was used to convey the idea that herein we had a dammed up condition of the blood detritus, which had disintegrated more rapidly, by the excessive blood corpuscle destroying action of an enlarged and too active spleen, than the over-burdened liver could work it up into bile; that the hemorrhage was caused by the mechanical irritation, engorgement and consequent rupture of capillaries in the malpigian tufts of

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the kidney, which acted vicariously on the liver and tried to purify the blood by removing these useless blood elements; the cause maintaining itself the kidneys kept up their depurative action; still being over burdened and irritated, they continued to bleed, and the condition of the system favoring hemorrhage; thus many cases literally bled to death. The jaundice was accounted for on the same grounds, being due to the extravasation of the blood elements, mainly of the changed hæmatin into the subcutaneous connective tissue. This state was brought about by the chronic action of the malarial poison on the great sympathetic system and through the agency of a ravenous spleen.

The cholemia and the heterogenous blood mass being mainly due to the results of red blood disintegration, and the abundance of free hæmatin, with its retrograde metamorphic combinations, induced me to term the disease "purpuræmia," as Golding Bird had termed the urine hæmatin, purpurine. Maturer reflection has caused me to consent to the name "hemorrhagic malarial fever" as more appropriate, but I still hold to my theory of the pathology. I still believe that the whole group of symptoms is best explained by this theory, and that the most successful treatment is one based upon it. All the cases I have seen have had enlarged, firm spleens. Some of the cases had not recently had any malarious attacks of any sort. A young man had it here in July who had not had a chill since the July previous. My theory is that the blood disintegrating function of the spleen is abnormally exaggerated; the blood corpuscles become rapidly destroyed; hæmatin and hamo-globulin and other albumenoids rapidly appear in the portal circle; the liver makes an effort to do its duty by working this material up into bile; it accumulates faster than it can do it; the first result is an abundance of bile, in the alimentary tract, in the gall cyst and in the liver venules; the next is jaundice, both probably from the bile regurgitation, after Schmidt, and the extravasation of the blood hæmatin. Now the kidneys exercise their compensatory action; they try to aid the overburdened liver and thick blood; first they drain of hæmatin (purpurine) and bile, and there is "hæmaturia"—in mild cases they often stop at this, never go to true hemorrhage, and speedily recover; next the small capillaries give way and we have true "hæmaturia."

Hastily expressed, the above is my theory of so-called hemorrhagic malarial fever. It will be seen that I attach more importance to the condition of the system than I do to the cause of the disease—malaria. In some respects I think it is unfortunate that so much stress has been put upon malaria in connection with its nomenclature. I know that many cases are entirely remediable without a grain of quinine. I believe that most of them are best treated without quinine. In the past summer, 1883, I had occasion to treat the cases of two young boys with this disease. One had a record that quinine was toxic to him; that whenever he took it it made hæmaturia; the other was a poor boy, for whom quinine was an expensive luxury; both boys had enlarged spleens. I treated them both with prompt recovery without any quinine. If called to a case of hemorrhagic malarial fever, my first effort would be to disgorge the portal circle by a full dose of

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calomel; if there was distressing nausea so as to prevent its immediate exhibition, I would give it in two grain doses every two hours until purged. If there was great nausea and epigastric tenderness, I would blister over the epigastrium with flies. I would aid the over-taxed kidneys by giving them as little work as I could by making the skin act; surround the patient with hot bottles and keep him in a perspiration; use also a stimulating liniment over the kidneys—I know none better than that of old Perin Thompson, containing spirits of nitre. As soon as possible begin with large doses of the tincture muriate of iron—dose according to age and stomach retentiveness, from ten to twenty-five drops, diluted, every two hours. This salt acts as a hæmostatic, hæmatinic, and diuretic. Keep up a gentle purgation to relieve the gall bladder. I prefer for this a mixture of hyposulphite soda in laxative doses; ice internally for thirst and nausea; Allen brandy and champagne. Give a nutritious and digestible diet. Now, as a matter of prudence, quinine may be given at night between 7 p. m. and 7 a. m. But in my opinion it is not necessary; I have cured cases without it. And where there is any reputed idiosyncracy, I would not use it at all. Hypodermics of morphine may be used to counteract great pain or restlessness, but should be used sparingly.

In a subsequent communication, Dr. Riggs writes as follows:

I have never seen a "hæmatemesic case;" I have had cases of an intermittent and remittent type; most abundantly of the latter. I believe the disease assimilates the malarial fevers in type, being intermittent, remittent, and congestive. Dr. J. M. Donald, Harrell's Cross Roads, Dallas county, Alabama, can report to you some marked cases of the congestive type, death in sixteen, twenty-six, and thirty hours. I have seen but one case of this type that I now recollect, in August, on the bluff of the Alabama river, in south Selma; a strong young Irishman; he recovered. I have never seen a well-marked case in the negro; have seen two cases in young negro men, of fever, yellow adnatæ and hæmaturia, but it did not confine them to bed, and they recovered promptly under purgatives—calomel and hyposulphite soda, and quinine, followed with treatment of chloride of iron. Do not believe the rule, that negroes resist malaria better than the Caucasian, has any exception in the disease. It is less common in them than in the white race. Probably fifteen would cover all the cases I have seen in this disease; most of them have been mild, the mortality not being greater than 12 per cent. One case, in a young boy, white, the hemorrhage came first from the nose, then from the bowels, and in such quantity that he bled to death. The blood from the bowels presented the regular "poke-juice" color which it has in the wine when abundant; the skin was yellow; but there was no hæmaturia. The hæmaturia generally appears immediately after the first chill, but sometimes not until after the second. The yellow skin does not until after the disease has lasted twenty-four hours usually, though it sometimes manifests itself before the hæmaturia when the patient is up and about, and sometimes the two are co-incident. The disease appears in

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July, August and September, and the early weeks of October. I never knew a case in June, and never knew one in November.

DR. W. C. STEWART, BENTON, LOWNDES COUNTY.

I have seen only five cases of the hæmagastric form of hemorrhagic malarial fever, four recovered and one died. Remittent—pulse always frequent, and usually feeble; the hemorrhagic vomiting very dark and thick, commencing from second to fourth day of attack. From three to nine days was the duration of disease.

TREATMENT.—A combination of proto-chloride of mercury, one grain; acetate of lead, one and one-half grains, and opium, one-eighth of a grain every two hours was given to an adult, the first three days of illness, if there was a marked remission; quinine in moderate doses per rectum; muriated tincture of iron was freely administered subsequent to the aforesaid treatment. This fever always succeeded repeated attacks of intermittent or remittent fever. Nearly every case occurred from September to the following March.

THE HÆMATURIA FORM.—I have had thirteen cases, eleven recovered, and two died—intermittent and remittent—pulse frequent, often voluminous, but compressible; the character of hemorrhage variable; it usually appeared after the second or third chill, but in two instances I was horrified by it immediately after the first chill. The jaundice was also variable; it occurred generally on the second day, but occasionally preceded the fever; death followed coma and convulsions. I usually gave forty grains of hyposulphite of soda every three hours to an adult during the first twelve hours after the chill, and in view of the next paroxysm, quinine in moderate quantity alternated with ferric alum. One of the two fatal cases was a sweet little girl four years old, who was in perfect health previous to the attack, which took place in mid-winter; she had not even been at all sick or unwell during the past fall or summer. The hemorrhage followed the second chill, which came on despite every effort to prevent it. She was sick about forty-eight hours, and about six hours before dissolution she, although pulseless at the wrist, and extremities cold, seemed to feel perfectly well, and would, if allowed, sit up on her bed and play with you. The coldness gradually deepened to quiet, into sweet sleep, which at length was disturbed by spasms, in which she expired. There were three in which hæmatemesis occurred on the fourth or fifth day. The vomiting was so dark as to appear black in passing from the mouth of the patient, and it was horrid to behold it pour forth: it was as thick, I suppose, as uncoagulated blood mixed with very finely powdered coffee, in proportions of three of former to one of latter. I could discover no bile, it had no such odor. In the cases that recovered it was occasioned for two or three days, but in the fatal case just a short time before he expired, while lying on his back, it burst from his mouth on the bed-clothing. The fever lasted from seven to nine days of favorable termination; in the fatal case only three days. The urine was scant and very red, but no blood was discoverable. In one case hæmoptysis

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preceded the hæmaturia after the appearance of the latter hemorrhage; the former ceased and the patient recovered without having even manifested any lung trouble or debility. There was total suppression of urine in one case that died of the hæmaturic form. After having had a chill every day for six successive days, and hemorrhage from the kidneys subsequent to the fifth and sixth, I was called to see Mr. T. L., aged eighteen years; he was frail in form, and strikingly pale and sallow. On my first visit there was decided abatement of fever, with pleasant moisture of skin; I immediately gave quinine freely with citric acid. This treatment was continued during forty-two hours; never had another chill, and the hemorrhage ceased, leaving the urine free and comparatively of good color. I was surprised to find so frail a person with so full, forcible pulse. I immediately examined his heart; there was hypertrophy, with a single rough sound. Notwithstanding the improvement aforesaid, on my third visit forty-eight hours after my first sight of him, I found (although the patient felt comfortable and seemed quite hopeful of his recovery,) the heart symptoms were truly alarming. There was slight difficulty of respiration, but not sufficient to attract the attention of the patient or his family. Within two hours, however, it gradually became alarming; the struggles of the heart were great until about fifteen minutes before his death. The beat or pulsation was distinctly audible three feet from his bed, and the heart appeared from the sound to be located in the left hypochondrium. He was under medical treatment forty-eight hours.

DR. W. E. STEWART, CLANTON, CHILTON COUNTY.

I saw in 1876-7, while living at White Hall, in Lowndes county, several cases of hemorrhagic malarial fever, all of the hæmaturic form only. At first I used quinia, but found that it produced depression in a majority of cases. The most successful treatment in my hands was calomel and Dover's powders in small doses, every hour, until the nausea was relieved and the tongue became moist. In many cases I also gave small doses of turpentine, when the tongue remained dry. After the nausea was controlled, fifteen drops muriated tincture of iron every two hours, and a pill of quinia every six hours—the following proving satisfactory with me:

Sulphate of quinine, twenty grains; ipecac and black pepper, each, one grain—mix *et ft in pil* ten.

With this treatment all the cases I saw recovered—I think thirteen cases—only one of them, however, was typical of the disease, and in this the same treatment was successful, the turpentine emulsion was continued through to convalescence.

DR. JOB THIGPEN, GREENVILLE, BUTLER COUNTY.

I have treated six cases of hemorrhagic malarial fever without assistance, all of which recovered. Was assisted by Dr. T. J. Palmer in two cases—both recovered. By Drs. T. C. Webb and C. D. Palmer in one case—recovered. I assisted Drs. Webb and Palmer in one case—recovered. Assisted

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Dr. F. C. Webb in one case—recovered. Assisted Dr. W. C. Simmons in one case—recovered—twelve recoveries. I assisted Drs. Perdue and Steiner in one case—died. Saw two cases with Dr. Simmons only a short time before death closed the scene; don't know how they were treated. Saw one case in Greenville about ten o'clock, m., died about 4 p. m., of same day—no time for treatment. I commenced the treatment of one case, and thought I had him in a fair way to recover; he had previously used spirituous liquors pretty freely; had quit it entirely for some time; I thought he needed a stimulant and prescribed it; his wife took offense, and in the evening I received a note from her saying that she thought her brother and herself could manage his case Another physician was sent fo,r the treatment changed, and the man died. (Her brother was not a physician).

DR. FRANK TIPTON, SELMA, DALLAS COUNTY.

I send you the clinical history of the last two cases of hemorrhagic fever treated by me, which fairly represent the type of this disease as it appears here. I cannot recall the precise number of cases which I have treated.

CASE No. 1.—Maj. E. M. H———, aged 55; intemperate habits; gives history of intermittent fever during the past autumn; saw him at four o'clock p. m., September 16, 1883; he had then had three chills in the preceding seventy-two hours; I found him just out of a chill, with temperature 104°; full, bounding pulse; copious hemorrhage from the kidneys, and skin intensely yellow; moderate nausea; great restlessness and distress. I ordered calomel, ten grains; soda, ten grains, at once; tincture aconite, five drops every hour, till pulse fell and skin became moist; also, ordered hot pediluvia under blankets. At nine o'clock p. m., he took (30) thirty grains of quinine by mouth. Notwithstanding intense cinchonism and deafness, another chill set in at four o'clock a. m., with a renewal of all the symptoms. I saw him at 4:30 o'clock; found him exceedingly restless and greatly distressed; gave him eight drops of Majendie's solution of morphia, hypodermically, with the happiest effect; he soon fell asleep; the skin became moist and pleasant; temperature fell to 100°; bowels acted freely from the calomel, and everything looked propitious. I gave him during the next twelve hours (40) forty grains of quinine by mouth; at four p. m. another chill set in, with a recurrence of all the symptoms. Becoming alarmed at his condition, I inserted (20) twenty grains of quinine and one-fourth of a grain of morphine, hypodermically, at seven o'clock p. m. This averted the next paroxysm, due at four o'clock a. m. From this time he required two hypodermics, daily, of quinine, ten grains each, for several days—were they omitted and the drug given by the mouth, the chill invariably returned, and for six weeks subsequently the hypodermic was required on the seventh days. On one or two occasions the drug was given assiduously by the mouth forty-eight hours before the expected paroxysm, with no effect whatever, though he complained bitterly of the cinchonism. The effect of the hypodermic method was absolutely invariable. His secretions were looked after, and though his tongue was clean, system braced by arsenic, quinine,

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iron and strychnine, and appetite good, the chill returned, invariably, unless he received his quinine, hypodermically, on the seventh day. He is now strong and well. He took, in all, nearly thirty hypodermics of quinine, ten grains each, without an abscess. The solution was made after the formula which I gave in my report on quinine in last year's transactions.

At the earnest solicitation of the family, I permitted him to take Wilhoff's tonic for two weeks. I had heard such unqualified praise of this article, in chronic malarial poisoning, from the laity, that I was a little curious to test it myself in this case. It proved as useless and inefficient as other remedies, and was discontinued after the use of two bottles. This case illustrates the great power of quinine hypodermically. Without this method of administration, the patient would have been surely destroyed by the persistence of the fast recurring chills.

Case No. 2.—Walter R., aged 20; robust and previous health good; was taken with a chill, September 20th, 1883; found him dreadfully nauseated, very restless, temperature 104°, extremely yellow and bleeding freely from the kidneys; ordered calomel, 10 grains, soda bicarbonate, 10 grains, at once; five drops tinct. aconite every two hours during the fever. The calomel purged freely; patient was freely sweated by a hot bath and blankets; 10 grains of quinine was given hypodermically night and morning. He had one more chill; the fever then assumed a remittent type, urine clearing up. The quinine did not stop the fever, which ran into the typhoid type, with dry tongue and tendency to wander at night. He gradually emerged from this condition and is now quite well.

These two cases fairly represent the types of this disease which I have met. Under the quinine treatment they recover, unless suppression of urine occurs, which invariably proves fatal in my experience. In one case I saw a patient go 48 hours without passing urine, and then recover, but this I now think was due to the fact that for several days he had retained absolutely nothing on the stomach, and that there was not water present in sufficient quantity to flush the kidneys during this time. I have found the pulse and temperature range to correspond in this disease with the corresponding forms of simple remittent and intermittent fevers.

The hemorrhage, in my experience, generally comes on during the chill stage and remits with the violence of the paroxysm. The jaundice comes, too, with the initial chill, the bowels are generally constipated; the duration of the disease is from twenty-four hours to a week, sometimes longer when patients convalesce slowly from violent attacks; mode of death has been, in my experience, from uræmia.

I consider quinine the sheet anchor, when given hypodermically, so long as the disease retains its intermittent type; when it assumes the remittent form I have never seen any positive results from it. I have found morphine an admirable remedy when there is great restlessness and nausea. I always avoid giving it until forced to do so, fearing its effect in hastening suppression of urine. This, however, may be purely speculative, as I have never seen the least evil from its use. I do not like atropia, it dries the skin too much, and so far as I can see has no curative effect whatever. I

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think free purging very good when the patient can bear it. It disgorges the liver and portal circle, quiets the stomach, eliminates malaria, urea, etc., and facilitates absorption from the gastro-intestinal track. I consider purgatives the next best remedy to quinine, and prefer calomel and soda. My plan of treatment is substantially as follows, and it has proved highly satisfactory: If the bowels are constipated I purge freely with calomel and soda, repeated every fifteen minutes, when vomiting is excessive, until enough is retained to purge. The nausea next demands attention in the large majority of instances. If the patient desires I let him drink freely of warm water until the stomach is thoroughly cleansed, then direct him to sip very hot water; this failing, I use crushed ice; this to be supplemented by carbolic acid and lime water, one drop to the dram every hour. I think the plan first suggested by Dr. W. H. Johnston, of this place, of sweating them for nausea, very good indeed. Put the patient in a tub of hot water, and surround him with a blanket and let him steam for ten or twenty minutes, or use the hot pack or the hot air bath, or hot foot-baths under the blankets. Tinct. aconite in plain, or carbonated water, is as good as any febrifuge, and is less nauseating than any. Quinine should be given hypodermically in 15 grain doses, combined with one quarter grain of morphine, (unless the kidneys are sluggish), four hours before the expected chill, which returns, in my experience, every twelve hours. This plan, with tinct. of iron in convalescence, constitutes my treatment in this disease. I think the reason why quinine disappoints so many is that they do not use it subcutaneously. It certainly fails in the large majority of cases by the mouth. In the remittent form quinine does not control the disease, in my experience, until the secretions are thoroughly corrected by calomel. To quiet the extreme restlessness I prefer chloral, when the stomach will permit; when this fails and the case demands the use of opiates, there is nothing that acts so well as they do. They quiet nausea, and restlessness, relieve pain and promote perspiration; all of which is desirable in this disease. I have never seen a case in which I thought it necessary to use hæmostatics. Were they necessary I should use ergot hypodermically and tinct. of iron by mouth, if the stomach permitted.

Most of the cases are chronic types of malarial poisoning; some occur without previous evidences of malarial cachexia; these, however, are in the minority. The success of our local faculty in the treatment of this disease is highly creditable, and I think I have about outlined the method pursued by most of them. I must add, in closing, that I am indebted to the experience of my older conferes here for many valuable facts concerning this much dreaded disease. When quinine utterly fails to check the chill, the plan of sleeping the patient through the dreaded period with large hypodermics of morphine, is sometimes successful.

DR. P. G. TRENT, ROCK MILLS, RANDOLPH COUNTY.

Your circular letter of the 22d inst. is at hand, and while I have but little to report, yet I am sorry for the lack of clinical records. What I shall state

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will necessarily be very indefinite. Whilst I treat many cases of malarial fever, I am happy to say my experience is but very little with "hemorrhagic malarial fever." 1st. I have had no case of "hæmagastric fever." 2d. Have had only two cases of the "hæmaturia form," one female aged thirteen; the other a male aged twenty-three. Nothing otherwise unusual occurred in the progress of these cases, more than the disease was rather continued. The type of fever was remittent; both recovered. In so much as you ask information in regard to "hemorrhagic malarial fever in its several varieties,"—though you invite attention to two forms only—yet I will mention a third case which came under my care last fall, and should it not in any way serve your purpose, it is but little trouble to report it. It was hemorrhage of the gums; case, female, aged eighteen. I was called to see her October 25th; it was an ordinary attack of malarial fever, of remittent type. In the second week the hemorrhage made its appearance, very violent for the first twenty-four hours, and gradually grew less, and finally disappeared in six or seven days. There was no catamenial trouble in this case at all; she made good recovery, and was dismissed November 21st, and she is in fine health at this writing. Hemorrhages in these fevers, even epistaxis, rarely trouble me, and sometimes I think it is the way I treat them. I shall simply name my principal remedies. Mercury, bicarbonate of soda, chloride potassa, rhubarb, cinchona alkaloids, gelseminum, veratrum, aconite, ergot, Fowler's solution, creasote, opiates sparingly; in fact, I use them this way in everything. Very often all of the above enter into the preparation of a single prescription. Doubtless you think this is quite a shot-gun business, but I can assure you that my success has surprised even myself. I have given my treatment to physicians with whom I have been called in consultation, and it is equally as successful in their hands as it is in mine. I hope it will not be long before the profession will find out the real worth of ergot, in the treatment of a great many diseases.

In a subsequent communication, Dr. Trent writes:

As I remember them, the cases previously related—the main symptoms—were about as follows: Some nervous prostration, nausea with vomiting, bloody discharge from the kidneys, golden color of the skin, fever of rather a remittent type; I do not think the temperature was very high at any time. As to the two cases, I ought not to have said both were rather continued. The case of the young man was not continued, it was very violent for the first two or three days, but was (as well as I remember) convalescing in six or seven days, and was soon well. The yellow skin and the vomiting were very prominent symptoms in this case, and I remember at one time after he had vomited, that I examined the contents of the vessel very carefully, thinking I should find blood, but decided there was none. The case of the girl was considerably continued, and I thought it was owing to her frail constitution; it was fifteen or twenty days before she was convalescing. The review of these cases reminds me of the fact that in their treatment I used blisters over the stomach; I do not think I mentioned this in my other letter, and it is very well that I did not, as you say—"Indeed, it is easy to

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see that your mind is full of the treatment." Why I mentioned the third case – the one with the hemorrhage from the gums—was because it seemed to belong to the same class of cases, nervous prostration, golden skin, vomiting, &c. At first the mother of the young lady thought the blood came from the stomach, as it made its appearance while vomiting. I investigated the matter carefully, and found that all of the hemorrhage was from the gums. All recovered, and I must repeat that in the treatment of these cases I do like calomel, creasote, soda, potassa, ergot, opiates as necessary; and in my two female cases I used subcarbonate of iron with advantage.

Now, doctor, I have told you about all I can remember about my cases that I thought to be hemorrhagic malarial fever. When you consider the matter, if you find I am mistaken in my diagnosis, I will kindly allow you to throw my letters in the waste basket.

DR. CHARLES WHELAN, BIRMINGHAM, JEFFERSON COUNTY.

I have misplaced your letter of enquiry on the forms of hæmaturia, and, therefore, cannot reply in the order of the different interrogatories. I have had and treated in consultation about ten cases of the hæmaturic form of the disease in question. I was a victim of the disease myself in 1871, and had a serious attack of it, ushered in with the second chill on the same day. The first chill occurred at 11 o'clock a. m., and the second at six of the same evening. I was in the previous enjoyment of good health, but was engaged in a large negro practice, exposing me to great fatigue and worry in a very malarious district of country in the canebrake region of Hale county. The type of fever in my own and three other cases was of the intermittent form and yielded to large rectal doses of quinine. I had six other cases of the malignant congestive form, all dying at an early day. Two of these succumbed in less than twenty-four hours, and were unconscious from the inception almost of the attack. I exhausted every remedy in my power, but to no effect. They were literally bronzed in appearance, and the bladder contained only a small quantity of bloody urine. The other cases were of longer duration, but finally died of uræmia. Three of these cases I remember were a father and two sons down at the same time with the disease, and two dying with this uræmic complication. To my best recollection the jaundice is nearly coincident with the chill; also, that the intensity of the discoloration and the gravity of the attack bore a noticeable relation. The operations were almost black from a redundancy of bile; the pulse only slightly disturbed in the intermittent form, the weak, rapid and compressible in the congestive variety, intense nausea and jaundice, accompanying all forms; most of my cases clearly exhibiting a previous malarial cachexia. I practiced without a thermometer, and I believe without a hypodermic syringe, and cannot furnish you with the temperature or effect of hypodermic medication. I am sorry that I am unable to aid you in the first matter.

As to the effect of hypodermic infection of morphia in these cases, judging from the depressing effect had on me, I should regard it of doubtful

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utility. My physician, each time, gave me not exceeding one-eighth of a grain, and the depression was so great that I felt a sense of exhaustion supervening in each instance, requiring sponging with cold water, hours after, to revive me. My opinion was that the hemorrhage was of a salutary nature, and I found no necessity for interference.

In the malignant cases all died, the urination being scant; and in the intermittent form profuse, and all recovered.

I never saw a case of the hæmatemesic form or anything resembling it. I can imagine no possible relation between this disease and yellow fever, although I never saw a case of the latter. The disease was a "stranger" in the canebrake region, so far as the oldest physician knew, prior to 1867. It appeared and disappeared at yearly, or longer intervals, up to about 1874 or 1875, and, if I am correctly informed, has been lost. Those were years of epidemic malarial disease, and scarcely any person escaping one or another form. The country growing again healthy and exempt from these fevers—the most of the fall being the favorite periods of attack—the drainage and cultivation of the soil not differing from previous years—attacks or epidemics in certain localities, during those years, of "murrain" or "red-water" among the cattle, dying in great numbers in the pastures (I mention this only for what it may be worth in solving probable endemic malarial causes), I believe this disease to be typically malarial in origin, differing in treatment in no respect from the ordinary forms of congestive remittent, entitled to no distinct nosological classification from it, other than in the hæmaturia complicating this form, and that in the malignant forms nearly all will die, and in the intermittent all, with quinine, will recover.

N. B.—I never saw a case in the negro.

In a subsequent communication Dr. Whelan writes:

I did not consider the dark discoloration of the discharges due to blood, but simply in the nature of hypercatharsis, as we often see after the administration of calomel. The system seems literally deluged with bile.

DR. R. S. WILLIAMS, MOUNT MEIGS, MONTGOMERY COUNTY.

Your circular letter received yesterday, and I assure you it is with diffidence that I offer you my individual expression in the questions propounded in hemorrhagic malarial fever, in its several varieties. Before answering your first, I would say that it is an old and fearful acquaintance.

I graduated in the spring of 1848, and in crossing from Wetumpka to Montgomery, on what is known as the Judkins Ferry road (after crossing the river from Wetumpka), I met with Drs. Ames and Bolling, just leaving the Judkins plantation. They pressed me into their service as nurse for a case that both seemed intensely interested in; it was the overseer of Mr. Jas. H. Judkins, named Jones, and a relative of Mr. Jason Jones, now living a few miles south of Montgomery. I remember well hearing Dr. Boling (who I think was in advance of his profession in the history and varieties of malarial fever), say to Dr. Ames that "if the case was in Mobile or New Orleans, it would be called yellow fever." The patient, Jones, had been

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sick five days; the prescription was morphine, quinine and calomel. On the second night he, Jones, died with apparent uræmic poison, there having been no uræmic secretion for fifty-eight hours that I know of. The saffron discoloratives becoming less from the first hour that I saw him, and diminished after death into a dirty leaden hue.

I was a soldier in the Mexican war in 1846, and had attended one course of medical lectures in the medical college of Augusta, Georgia; was detailed from the ranks as hospital nurse on an outbreak of yellow fever among the soldiers of the United States army. I well remember that the death of Jones did not create on my mind the impression that it was the same disease that Dr. Fenner, of New Orleans, had pronounced yellow fever; yet I equally as well remember that the treatment in Jones' case—quinine, calomel and morphine—were the prescript ions that I was hourly filling for the cases of yellow fever in Vera Cruz, with what fearful results I will forbear to say.

Now, Dear Doctor, I have made mention, at the risk of being prolix, from what standpoint my observations were directed. The quinine, calomel and morphine treatment, in yellow fever, was not satisfactory to me; the same treatment, as directed by two Montgomery noblemen in our profession, did not keep Jones from dying. There is an old adage, that "early impressions are lasting," that I fully appreciate, in my experience with genuine and undoubted yellow fever, and in what I considered doubtful yellow fever, as at the date of Jones' case, such a disease as hemorrhagic malarial fever was not known. We had intermittent, simple; remittent, simple; we had the congestive form of each, so well described by that noble and clear-headed Boling in a series of communications published in the American Journal of Medical Sciences, but no hemorrhagic malarial fever.

I commenced the practice of our profession on Line creek in 1848, about eight miles from its junction with the Tallapoosa river. This was at that time a wealthy section, consisting of a large population of negroes and a small one of whites—the owners of slaves, and overseers or superintendents, with a small per centage of poorer white people that owned none or few slaves. The wealthy spent the malarial season at the different watering places; the poorer and overseers, and the poorer doctors, had to remain at home. From the time I saw Jones, on the Judkins place, until now, I do not think there has been a year passed that I have not seen cases of hemorrhagic malarial fever. You ask in number 1: Number cases, number recoveries, number deaths. Not having kept a case book, I will have to answer—to number of cases, numerous; number of recoveries, few; number of deaths, fearful. I should have first noticed your subdivisions—hæmagastric and hæmaturic form. I have never seen a case of hemorrhagic malarial fever fatal without hæmaturia. I have seen hæmatemesis in malarial fever, but when not connected with hæmaturia or a drunken habit, have had no fears of final results of our well known treatment for malarial fever. In the future answer to your questions, I would have you assume the belief that I recognize no form of hemorrhagic malarial fever without hæmaturia or the port wine urine at some stage during the attack. There are intermittent forms (the mildest); remittent, grave, and congestive forms, fear

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ful. I have never used a thermometer in my practice, but can say in the intermittent the range of temperature often in reaction is high; that of the remittent is intense; of the congestive form, until reaction is brought about, it is low. I never saw a case without gastric irritation at some stage of the disease. I never saw but two cases complicated with hemorrhagic vomiting; both recovered. As to the date of the appearance of the jaundice, I believe that it nearly always precedes the attack; and all patients of mine become a source of anxious solicitude. Jaundice puts in its appearance during an attack of intermittent fever; the jaundice that preceded the attack is not of that complete yellow that marks the jaundice from other causes, but of a murky yellow, indescribable; but once seen not to be forgotton. The bowels are most generally obstinately costive, and do not respond to the action of ordinary cathartics, in severe cases. I know nothing of the conditions of the kidneys, but can say as long as there is hæmaturia, I have hope of my case, if the urine gradually clears up without diminishing in quantity. If, on the contrary—that is, if it clears up materially, less the natural amount—I become alarmed about the case, not placing much value on the conditions of the pulse or respiration at the time. In other words, I watch the actions of the kidneys as being the true index of whether my patient will recover or die. As to the duration of the disease, I would say that in a large majority of the cases, six days from its full development will determine whether fatal or not; yet I have seen cases last for weeks, with complications, having parotid abscess or pustules on various portions of the body, and two cases of hepatic abscess as a sequel. When death is the result of the direct or immediate action of the disease, it is by asthenia or uræmic poisoning, death by asthenia being earlier than that by uræmia.

Now, Dear Doctor, I come to the question that, when answered, if not correct, might my obscure opinions control the action of others, be the means of placing myself in the position of an indirect murderer? You, whose life has been well spent in honest efforts to prolong the life of your fellow men, can and will determine the great doubt that one of our profession, influenced by no motive but that of good to humanity, can have in running directly against the general opinion of those who have larger claims for correctness of thought and action; yet I have to say that for twenty-eight years past, until recently, I have never met with but one brother professional man who agreed with me that quinine, God's greatest gift to man in malarial districts, was a positive injury in cases of hemorrhagic malarial fever. You can see that in my description of the different forms of hemorrhagic malarial fever, I have recognized the malarial origin of the disease, even to its different potential effects on man; and you may well ask, if malaria is the direct or indirect cause, how can you then deny that quinine, in its direct effect as an antidote to malaria, or its indirect effect on the nervous system as an alterative, should not be a remedy for this fearful disease? I should have to say that in my younger days, in a malarial region, the direct and immediate effects of quinine in malarial affections were so prompt and sure, and everything else in therapeutics were so uncertain (I

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mean as specifics) that had it been impossible for me to obtain quinine, I should have quit our common profession in disgust. Do not understand me to be an enemy to quinine. I am not half as much afraid of it as your justly great and good Dr. Baldwin; yet I have to say to you, in answer to your question in circular, that I have tried it internally, externally, in hemorrhagic malarial fever, and have yet to see the case that I thought it benefitted after it passed out of its intermittent form. Never met with a case *de novo*, but more than half the cases I have met were quininized when the symptoms first manifested themselves in the late summer or fall, but have seen cases where patients had persistent intermittent in spring. I do not believe that hemorrhagic malarial fever ever did exist where there was no malaria. In my experience, a malarial cachexia is always a necessary precursor of this disease; yet I must confess that I have never yet met with a case that had not taken quinine before its development into hemorrhagic malarial fever. I have seen numbers of cases pass suddenly into hæmaturia when fully quininized and quietly in bed, for the purpose of keeping off a chill.

Differential Diagnosis.—1st. In yellow fever the most robust and strong may be stricken down; 2d. The rigors prefacing the advent of yellow fever are more frequent in the night than the day; 3d. The discoloration in yellow fever increases with the duration of the disease, and becomes more intense frequently after death; 4th. Black vomit, with its peculiar velvet flocculi, does not belong to hemorrhagic malarial fever; 5th. And I would say one of the most important differences is that I have never yet seen the intermittent, the intermittent pulse, nor the disposition to syncope the calm that succeeds the first advent of fever, nor the morbid desires of the stomach in the way of appetite in hemorrhagic malarial fever. In hemorrhagic malarial fever the advent observes the same course as all malarial paroxysms—that is, between the hours of sunrise and sunset. Preceding, and before any passing of bloody urine, there will be a manifest letting down in the action of the sympathetic nervous system manifested by paleness, quick and feeble pulse, followed by a copious discharge of urine the color of port wine; that as the disease progresses the yellowness becomes less intense; after death it frequently disappears. Intermittent pulse or syncope not often seen; never saw black vomit in hemorrhagic malarial fever; I have never met with a case of hemorrhagic malarial fever in a pure negro; four-fifths of my cases have been blondes; have seen cases from two years up to sixty; never met with a case under two years old; it has no regard for sex; I have never made a *post mortem*; the individuality of hemorrhagic malarial fever is so well marked that once seen will never be forgotten. I shall give the clinical history of but few cases as descriptive of different forms of the disease: 1st. J. C. Judkins, Jr., age about 28. This was a case of Drs. Ligon and Egbert Johnson. Judkins was large, weight about two hundred and twenty pounds, hair light, skin fair, eyes light blue, a perfect athlete; had, as I learned, several attacks of intermittent malarial fever; do not remember exact date, but was sick in August or September, 1873; he had been sick five days when I first saw him; found him

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with a pulse of about 85, well defined, respiration 18, but at times irregular; mental condition good, muscular strength remarkably good, could and would get up and walk around the room without staggering in the least; had irritable stomach, at long intervals; had, as I learned at commencement of attack, taken quinine freely for the purpose of keeping off chill; hæmaturia came on suddenly, attended with great nausea and the discharge had been copious, but was then small, not exceeding two ounces in twelve hours previous to my visit; skin and conjunctivæ intensely discolored, being of a dirty yellow hue, bowels torpid, had not responded to 160 grains of calomel given in twenty and forty grain doses at six hours intervals; was taking quinine both by mouth and enema in large doses; also, calomel and digitalis. My effort to convince Dr. Johnson that the calomel and quinine were lessening his (Judkins) chance of recovery, were met by his assuring me that he would ever feel if Judkins should die without these remedies, that he had not given him the benefit of a treatment recognized by the profession all over the civilized world as being the best known. I did not press my views, as I well knew what my friend Johnson had said was true, yet I informed his (Judkins) brothers that, notwithstanding the almost superhuman power of constitution possessed by the patient, that I then, in the lessened secretion of urine, saw almost inevitable death. The next day I visited J. with one of his brothers; pulse 40, respiration 11, skin cool, with no perspiration, no light cause from which he could be easily aroused, and was rational when fully aroused, but talking incoherently when passing from a wakened condition into that of slumber; pupils somewhat dilated, tongue large, pale and moist; had passed no urine since the evening before, which was small in amount and of natural color. At the request of others I introduced a catheter, but only obtained about half ounce of urine clear, with no urinous odor. I never saw him after this, but he died on the eighth day of his attack of uræmic poison.

I will now give you the history of a case that I saw in Montgomery with Dr. Baldwin in September, 1872; W. C. Ray, Jr., age 23, brunette, weight about 120 pounds, hair and eyes dark: had been recently living in Macon county, Alabama, where his father had died with hemorrhagic malarial fever but a short time before. Ray had just taken previous to his attack thirty grains of quinine, and was, when I visited him, fully quininized; had a short time before suddenly felt a distressing and deathly sickness, followed by a large and copious discharge of bloody urine, with intense nausea and frequent vomiting; found Dr. Baldwin's opinion as to quinine in accord with my own. After administering a dose morphine hypodermically he (Ray) took a full dose of Epsom salts with one dram spirits of turpentine, a combination that I have found an active cathartic, producing hypercatharsis. His pulse was 20, skin intensely warm, and very much alarmed at his condition, as he had just witnessed several deaths from the disease in the county, his father being among them ; skin and eyes of a bright yellow hue ; saw him first about 11 o'clock a. m., pulse 118, skin hot and dry; had not vomited since taking morphine, but had at intervals sick spells; urine still high colored and profuse, complexion pale, countenance expressive of great uneasi-

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ness; his bowels acted twice while I was present, actions large and watery, after which his pulse became more feeble and rapid; gave iced milk punch, and twenty grains of chloral at bed time. Third visit, 9 a. m.—Pulse 90, skin not so warm, expresses himself as feeling much better; attributes it to milk punch, of which he had prescribed several during the night for himself; urine still bloody, but secretion not so profuse. Fifth visit, 5 p. m. Pulse 120, some nausea, restless and disheartened, urine still bloody, but not so profuse. I assured him that he would have daily paroxyms of fever for five or six days; that quinine would not control them, but that the disease would terminate in that time, and I believed favorably. I will not go further with his daily condition, but say that he had regular paroxysms of fever every day from 9 to 11 a. m., for six days; that his urine cleared up on the fifth day, the discoloration of his skin disappearing about the same time. This case I class as one of remittent fever, the pulse never becoming normal until convalescence began.

LaFayette Wesson, age 26, weight 150 pounds, blonde, with light blue eyes; had been having repeated attacks of intermittent fever for several months, which yielded to the action of quinine, but would return on the 7th, 14th, and 21st days; had malarial cachexia. I was called to see him in September, 1854; my attention was directed by his brother to a chamber mug nearly full of port wine urine, as I called it then, before I went into the house where my patient was; pulse 150 and feeble, skin cold with dark yellow hue, very restless, intense thirst and nausea, perspiration, sighing rapid and irregular, great muscular exhaustion, intense throbbing of the abdominal arteries, intellect clear, complained of burning up inside of him, countenance expressive of great suffering and anxiety.

Treatment.—Mustard bath, forty grains of quinine and one grain of morphine by enema, blistered over the spine with Granville's lotion its whole length, and forty grains of calomel by the mouth. I remained with the patient during the night, repeating the enema of quinine after six hours interval, also the calomel. He continued to discharge bloody urine until a short time before he died, which was about eleven next day, and about the time he had his paroxysms the day before. This I could class as the congestive form. I have never seen one recover from this condition when hæmaturia is connected with it. I will not allude to the intermittent form further than to say that it is the mildest type, the hæmaturia ceasing with decline of the fever and is always under the control of quinine, when not running into the remittent form.

Now, Dear Doctor, you have an epitome, poorly written and badly connected, of my observations of hemorrhagic malarial fever. I will close with the history of one more case, and this was my son, aged 18 years, weight 140, blonde, with blue eyes; had been spending most of his time during the summer of 1881 at my plantation on the Tallapoosa river; had frequent attacks of intermittent fever, which quinine would promptly suspend. Had, the 1st of August, an attack of intermittent hæmaturia, which yielded to quinine; I promptly removed him permanently from my plantation to my house, at Mt. Meigs, where there had been no malarial disease,

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kept him on quinine and iron in small doses each day for three weeks. Yet at times, while having no paroxysm, he would show intense malarial cachexia, which would be much more apparent on some days than others, attended with some complaint but no fever. On the 10th of September, about 10 a. m., while at the village store, and cheerful, he was suddenly taken with a chill that made him very sick, but no hæmaturia; I gave him an anodyne (Dover's powders) and dose of compound cathartic pills, commencing with quinine, as soon as I discovered the fever declining, in six grain doses. The 4th dose he took three hours before his expected paroxysm, and was well under the influence of it before he took the last. About his time for the chill he said to me that he was satisfied; that he would not have a chill that day, for it had been his observation that when he felt the effect of quinine distinctly, that it invariably suspended his chills, but a few moments after he complained of being indescribably sick; this was followed by a copious secretion of bloody urine, and vomiting, with great muscular exhaustion; his complexion at this time was bloodless, pulse 125 and feeble, respiration sighing and irregular. I sent for my neighbor and friend, Dr. J. C. Nicholson, being in the meantime given a full dose of morphine hypodermically. He (Dr. Nicholson) found him more quiet from the morphine, but still with bloody urine; he insisted on one more trial of quinine, I refusing unless the hemorrhage should cease. The urine remained bloody; he got no quinine. He had regular daily paroxysms for five or six days, with a gradual decline of the bloody urine, which ceased on the fourth day to be colored; he begged me for the quinine to suspend the paroxysms for five or six hours after the urine cleared up, which I refused on the ground that I had frequently had a return of hæmaturia after the administration of quinine in these cases, and twice with fatal results. For some information on this point I would refer you to Dr. Walter Jackson, of your city. Refresh his mind by asking about the case of Robt. Judkins, in which I was consulting physician. On the seventh day from beginning, my son was convalescent. I put him on Fowler's Solution for about three weeks, but while he improved in general health he never recovered his clear and transparent complexion. In other words, the malarial cachexia continued. On the 8th day of September, just 28 days after the previous attack, my son, while passing from the village store house, was so violently attacked that he had to be taken from the side of the road and carried home. The hæmaturia was so profuse that his clothes were soiled by an involuntary discharge. His pulse was so feeble and rapid that I could not count it; muscular exhaustion was complete. My friend, Dr. Nicholson, again urged me to the use of quinine, and while I believed this attack would surely terminate fatally, I determined that he (my son) should have the benefit of my conviction regarding the use of quinine in this disease, with mustard baths and applying sinapisms and external heat for 24 hours; he finally reacted but his pulse was never below 120 for five days. The paroxysms returned regularly every day. The urine continued bloody and gradually grew less, until it reached about eight ounces in twenty-four hours, when it ceased to be colored and dropped to four ounces, with symptoms of uræmia

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slowly developing. I wrote a note to Dr. Jackson, of your city, that if there was any known remedy that would stimulate the kidneys to action, to send it to me. He kindly came and brought with him a solution of pilocarpin, but did not think that the symptoms that were in their incipiency were as grave as I found, and insisted on my continuing atropia, of which I administered two doses hypodermically. One more dose was administered by Dr. Jackson at eight o'clock. The secretions for next 12 hours was reduced to one half, and the pulse went down to forty, respiration eleven, with coma. The next twenty-four hours showed no secretion, with a pulse at twenty and respiration at seven, pupils largely dilated, and coma profound, with complete relaxation of the facial muscle. With this condition I thought death inevitable. I administered hypodermically the pilocarpin; he did not flinch from prick of the needle, but in less than five minutes was in a profuse perspiration all over his body with a serum secretion from the mucous surface of the nares. In four hours he had a profuse discharge from his bowels, and in eight hours a discharge from the bladder, the first in 48 hours, with perfect relief, from the condition of pulse, brain and respiration. There was presented in this case a new feature to me in this disease, and this was, from no secretion of urine a gradual increase in amount until it reached the enormous amount of 148 ounces in 24 hours, which lasted for eight or ten days and then gradually subsided.

To summarize my badly stated views: 1st. Hemorrhagic malarial fever is of malarial origin. 2d. That the different types of malarial fever are often, not always, well marked. 3d. I never met with a case *de novo*. 4th. That it differs from yellow fever in its formative stage, in its periodicity in the time and duration of the discoloration of the skin. 5th. In its not creating immunity from future attacks, but like malarial fever, seems to leave the system in condition to be more easily effected by future attacks. Also, that I have never seen it epidemic, and only effecting endemically those whose systems have had the malarial precursor. 6th. It is a disease of the country and hardly ever seen in cities, unless in those who frequent the country. There is much more that I could say about the disease, but it would be of minor importance.

Now, as to treatment, my conviction is that as soon as the blood gets in its hæmaturic condition, our well reputed malarial remedies lose their control over the disease and become positively injurious. That I have imagined that in the early formation of the disease, that hypercatharsis seem to aid the kidneys or relieve them of a part of their duty in eliminating the blood poison, or dead blood globules. That its duration is not much influenced by medicine. That it is 50 per cent. more fatal when treated with quinine and calomel than when treated expectantly. That anodynes are beneficial in lessening the irritation of the nervous system and its susceptibility to be acted on by the blood poison. That such as chlorate of potash, water and soda, seem to lessen the gastric irritability. That creasote given with those in the last stage of the disease has seemed, in my practice, beneficial.

Now, Doctor, I am of the opinion that you will find it as irksome to

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decipher this badly written scroll as I have in writing it. It has been given from memory. I trust, however, that you will be able to find something confirming your views or sustaining those of others. I cannot afford the time to make a transcript of this crude and illy digested production, and as it is now two o'clock, p. m., and I am wearied in sight at this night's labor, you will have to accept it with all its defects, as an effort to aid your honorable undertaking.

In a subsequent communication, Dr. Williams writes as follows:

In my answer to your circular my purpose was to generalize the most salient points of hemorrhagic malarial fever. It would require more time and space to enter into a full detail of all of the variations that I have met with in individual cases, than I can now devote to this important subject; yet, to define more definitely my mode of treating this disease, I will add a few more clinical reports of cases that have fallen under my observation: 1st. Miss Hally Ray, age sixteen, blonde, light hair and blue eyes; had had several attacks of intermittent fever during the summer months, which had been suspended by quinine. On September 15th, 1872, had a return of chills; prescribed as cathartic calomel, three grains; ipecac, half grain in pill, with four doses of quinine, four doses each to be taken at intervals of three hours, the last dose to be taken three hours before the next chill time. October 16th had another chill, attended with great nausea and vomiting, the malarial cachexia changing to a murky yellow; the calomel and ipecac had acted several times on the bowels. She complained of the effects of the quinine at the time of my visit; prescribed sulphate morphine, one-fourth grain, hypodermically, which quieted the sick stomach, and was followed by profuse perspiration. Sunday the case at eight o'clock a. m., pulse 80, fever gone, comfortable and cheerful, prescribed quinine, twenty-four grains, sulphate morphine, one-half grain made into pills, two pills to be taken every four hours, the last to be taken at 8 p. m., which would be three hours before her expected paroxysms, at 11 o'clock. September 17th, visited patient at 10 a. m., and found her reading in bed, pupils dilated, pulse 70; complained of nothing but the effects of the quinine. I noticed that the yellow hue of the skin had become more apparent than on the day before, and marked yellow tinge of the conjunctivæ. At half-past eleven was summoned to return; found patient deathly sick with an indescribable feeling of sick all over, as she expressed it; had not vomited yet; did not think the bad feeling was from nausea, but attributed it to the quinine; that she was complaining of feeling very distressingly in her head at this time; pulse 140 and feeble; had been in the room but a short time before she passed a profuse amount of bloody or port wine urine, followed by vomiting and intense nausea, very restless; prescribed one-fourth grain of sulphate morphia, hypodermically; creasote, ten grains; acetic acid and water sufficient to make three ounces—mix. Dose, one-third at six hours intervals until all had been taken. 18th, 9 a. m., found patient more quiet, pulse 110, heat of skin moderate, urine bloody, but not so profuse, skin yellow,

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attended with some pruritus; expressed herself as having been much relieved of the distress by the creasote mixture, and asked that I should leave more in case of return of bad feeling (nausea); prescribed creasote mixture with the addition of ¼ grain morphine to each dose, to be taken at intervals of eight hours. 18th, sent for to see patient at 3 o'clock a. m., found fever high, skin intensely warm, restless; did not feel the effect of the morphine in the mixture; had not vomited, but felt nauseated, pulse 125; prescribed morphia hypodermically, one-sixth of grain, and sips of iced milk punch (urine still bloody). 9 o'clock a. m., quiet, pulse 100, no discharge of urine since previous visit; prescribed iced milk punch; no medicine. 19th, p. m., found patient quiet and cheerful, had slept during the night very well; pulse 90, skin not very warm, but temperature above natural, skin clearing up and not much diminished in natural quantity. At 5 p. m. restless, with febrile heat of skin, pulse 120; prescribed common pulverized Dover's powders, ten grains. 20th, patient doing well in the morning, but fever rising as on previous days between 11 p. m. and 1 a. m., but pulse at no time normal. Found on my evening visit Dr. Jas. G. Freeney (who had been absent from the village, and who had attended on Miss Ray in a previous attack of hemorrhagic malarial fever) present, at the request of Miss Ray's mother. He (the doctor) insisted that quinine was a necessity to prevent a recurrence of the hemorrhage, and would control the paroxysms of fever. I consented to a trial, at the same time dissenting from his belief. The doctor prescribed quinine, sixteen grains during the remission of fever, in four grain doses, at intervals of three hours. 21st, 9 o'clock p. m., patient restless, with febrile excitement, pulse 110, urine bloody; learned from her mother that after the third dose of quinine had been administered, that Miss Ray had complained of being very sick, and had passed blood in her urine. The patient refused to take the fourth dose. Dr. Freeney said that the hemorrhage had returned from the want of quinine sooner, and doctor W. thought (but did not express,) that it was in this instance the effect of the late quinine. The fever was higher on this day than for several previous days, with the patient's dislike for quinine and the doctor's dread of a relapse; the responsibility of the case was again placed on me (and no more quinine). I will shorten my history of this case by saying that after the subsidence of the irritating effect of the quinine that the hemorrhage ceased, and in a few days the fever subsided, the patient recovered, and is now a resident of Montgomery. I will add that I have since attended the same patient in a third attack of this same disease and a sister of her's (now Mrs. Henry Mathews of your place) in two attacks.

I commenced this letter with the intention of reporting several other cases treated with little variation from the above, but varying in intensity, but have found out that it takes more words with me to express a little than it ought, or should be patiently tolerated, and will close by saying that, during the past five or six years, I have treated eight cases of hemorrhagic malarial fever without any terminating fatally; or, to express it as I believe, by declining to give quinine and calomel in these cases, I have permitted three or four to get well. I will conclude by recapitulating, that hemor-

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rhagic malarial fever is confined to localities; that one attack does not afford immunity from other attacks; that rarely, if ever, commences *de novo;* that only a seeming black vomit attends some of the fatal cases; also, that the vomiting is mostly confined to the early stage of this disease, and always attended with nausea; that I have never seen a case in a pure African; that among the whites it is more frequent among blondes, and has no respect for sex or age; that it is unknown in cities where there has been no exposure to malaria. The disease is always preceded by previous malarial attacks; that the discoloration of the skin is more marked in the early stages of the disease, and diminished after death; that most fatal cases die from uræmia, and die from the seventh to the tenth day after attack; that the congestive types are nearly always fatal, by or before the termination of the fourth day; that quinine, while it may, as a curative of malarial fevers, lessen the number of attacks of hemorrhagic malarial fever, it ceases to be a curative after the hæmaturia becomes continually established, and is, according to my experience, positively injurious, and lessens the chances of recovery; that I have seen repeatedly after the urine had cleared up, that the administration of quinine was followed by a return of hæmaturia; that I have never seen quinine suspend the diurnal paroxysm of hemorrhagic malarial fever that attends hæmaturia; that I have seen the remedies that we would prescribe in non-malarial hæmaturia, lessen the hemorrhage and apparently have good effect. As you have intimated that you would publish my views on hemorrhagic malarial fever, I have tried to write this so as not to be misunderstood. These views I have entertained for over thirty years, and have yet to regret that I acted on them.

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CARBONIC ACID GAS IN INTESTINAL OBSTRUCTION.

BY C. C. LLOYD, OF GREENVILLE.

I beg to call your attention to the following interesting case:

On Wednesday, March 5th, at 3 o'clock, p. m., I was called to see Mrs. Sarah Oliver, aged about 60 years. Found her suffering with torpor of the liver and bowels; complained of periodical pains in the region of the stomach and liver, accompanied with a gurgling sound; circulation natural, tongue clean; prescribed 20 grains of calomel and Dover's powders at 9 o'clock, p. m., with castor oil.

Thursday, 6th.—I found her in the same general condition, with some increase in the violence of the periodical pains; slight tympanitis; no action from the calomel given the previous day. I now learned for the first time there had been no movement from the bowels for 14 days. Prescribed 25 grains of calomel, followed again by castor oil.

Friday, 6th.—8 o'clock, a. m., decidedly worse; no action from the calomel; pains more violent and of shorter intervals; tympanitis very considerable, but no fever; pulse natural; tongue clean. Called in Dr. Joel C. Kendrick, of Greenville, to see the case with me, who suggested liberal and frequent enemata, which were used in quick succession during this and the following day.

Sunday, 9th.—Dr. Joel C. Kendrick being unavoidably absent, was represented by his son, Dr. J. Beder Kendrick, who suggested the use of carbonic acid gas. It was decided, however, to first use croton oil, which was given in doses of three drops every two hours until nine drops were taken, meanwhile continuing the enemata without interruption.

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Sunday, 9 o'clock, p. m.—All symptoms aggravated and now accompanied with nausea, vomiting and hiccough. Gave six drops of croton oil with half pint of castor oil. No result. The patient grew rapidly worse until the following Wednesday morning, the 12th, when Dr. Joel C. Kendrick, accompanied by Dr. Job Thigpen, came prepared to use the carbonic acid gas, which was done by attaching a gum elastic tube to the nozzle of an ordinary seltzer bottle (half gal.) and inflating the rectum with its contents. The result was highly gratifying. Considerable fecal matter passed out. Gave one-fourth grain of morphia with a full dose of castor oil. Patient slept well, and after using another bottle of the gas next day, there was decided relief. The bowels moved freely; patient slept soundly and is now rapidly convalescing.

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THE TREATMENT OF PNEUMONIA IN ALABAMA IN THE WINTER OF 1883-4, WITH REPORT OF CASES.

BY BENJAMIN HOGAN RIGGS, M. D., OF SELMA,

President, Ex-Secretary, and Grand Senior Counsellor of the Medical Association of the State of Alabama, and formerly member of the Board of Censors and Committee of Public Health of Alabama.

I know no greater service one can do his fellow-medical practitioner than to aid him in the successful treatment of this common disease. Pneumonia prevails in all parts of the world, and the mortality from it is very great. It has been more general and severe, and attended with a higher per centum of mortality in Alabama during the past winter than ever before, probably. The great extremes and suddenness of the alterations of atmospheric temperature, has probably had much to do with its prevalence. The winter of 1883-4 was characterized by periods of warm weather abruptly changed to very cold, and contrariwise from very cold to warm. The form of pneumonia that prevailed has been the catarrhal, commencing usually in the upper end of the air-passages and traveling slowly or rapidly down into the cells of the lungs. In many the characteristic pneumonic symptoms did not appear until several days after the physician was called to his patient; the main symptoms being censorial and gastric, with high fever. The cases presenting more the history of a fever attended with lung inflammation, a "lung fever," than of an inflammation of the lung attended with fever. I will present herewith a faithful clinical picture of five cases treated in March last by me, four colored and one white; all recovered, and most of them promptly:

CASE 1.—I was called to see J. C. J., white; sanguino-

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nervous temperament, aged 48 years, a painter by trade, married, wife living, a large family of young children; pneumonia, lower lobe of left lung. First visit at 9:45 a. m., February 28, 1884. Found him in bed, complaining of slight nausea; had taken a dose of Simmons' Liver Regulator the night before, which had acted; had not been well for a number of days before; tongue was slightly coated and red around the edge; his temperature in the mouth was subnormal, between 97 and 98; had some cough and had had for some time previous some pain in hypochondria; gave him about 16 grains calomel at once and ordered for one o'clock, p. m., 25 grains quinine and five grains of Dover's powders at one dose.

February 29th, 9:45 a. m., 2d day of attack.—Had not rested well; calomel had acted once freely; temperature 102.3, pulse 110; gave him the following: Tincture veratrum viride, 32 drops, bromide of sodium, two scruples; syrup tolu and distilled water, each half fluid ounce—mix. Dose, one teaspoonful in a little water every two hours. Gave the first dose at 10 o'clock, a. m.; at 2:45 p. m., temperature 101.8, pulse 101. Discontinued the veratrum mixture at four o'clock, p. m. At 5:30 p. m., temperature 97.8, pulse 65. Some nausea from the veratrum, which was much relieved by giving a teaspoonful of raw whisky. Gave 20 grains of quinine at six o'clock, p. m., at one dose. At nine o'clock, p. m., temperature 101, pulse 76; directed 20 grains of quinine to be given at 3 a. m.

March 1st, third day of disease.—9:15 a. m., temperature 98.5 and pulse 82; gave now the following: Oil of turpentine, eighty drops; pulverized gum arabic, one and a half drams; syrup tolu, one-half ounce; distilled water, four ounces; make an emulsion. Dose, one tablespoonful every three hours. Saw patient again at 4:15 p. m., temperature 102.2 and pulse 92; ordered twenty-five grains quinine at one dose at 7 p. m. Visit at 8:20 p. m., temperature 101.6 and pulse 100; felt very nervous and apprehensive; gave one-fourth grain morphine hypodermically; this quieted him at once and gave him a good night's rest.

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March 2d, fourth day of disease.—Visit at 9 a. m., temperature 101.2 and pulse 102; gave to-day: Tincture aconite (root), sixteen drops; chloride of ammonium, one dram; fluid extract of jaborandi, one fluid dram; syrup of senega, two fluid drams; syrup of tolu, one-half fluid ounce; mucilage of gum arabic, four fluid ounces—mix. Dose, one tablespoonful in a little water every four hours. His wife had general instructions to give a half dose of the veratrum mixture, or a full dose if circumstances warranted, whenever the pulse rose above 100, and she carried out the directions faithfully. At 2:30 p. m., temperature 100 and pulse 100; at 8:30 p. m., temperature 100 and pulse 101; gave now one-fourth grain morphine hypodermically, using Wyeth's pellets, as I commonly do.

March 3d, fifth day of disease.—Temperature 98.5 and pulse 95; continued treatment of yesterday. At 5:15 p. m., temperature 99.4 and pulse 90.

March 4th, sixth day of disease.—9:30 a. m., temperature 100.3 and pulse 93; gave to-day: Oil of turpentine, half fluid dram; pulverized gum arabic, two drams; fluid extract of jaborandi, two fluid drams; sub-nitrate of bismuth, four drams; syrup of tolu, four fluid drams; water, four fluid ounces; make an emulsion. Dose, one tablespoonful every three hours. Gave, also, an occasional half dose of the veratrum mixture. At 4:10 p. m., temperature 100.8 and pulse 98; at 9:20 p. m., temperature 99.4 and pulse 90.

March 5th, seventh day of disease.—9:45 a. m., temperature 100.8 and pulse 92; some gastro-intestinal irritation showing itself now, the following was ordered: Creasote, four drops; camphorated tincture of opium, two fluid drams; sub-nitrate of bismuth, four drams; caraway water, four fluid ounces—mix. One tablespoonful every two hours. I do not believe the gastric complication, which became quite prominent after a while, was due to the treatment, because (1) the same treatment was used in the other four cases with no such result; (2), because such complications are quite common in catarrhal pneumonia; and (3), because

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he was subject to irregular discharge of function by these organs in ordinary health. At 5:50 p. m., temperature 101.2 and pulse 92. This being the seventh day of the disease, I determined to try the quinine again, so gave the following: Pulverized opium, one grain; pulverized capsicum, three grains; sulphate of quinine, twenty-five grains; mix and make into four capsules. Dose, take all at 7 o'clock p. m.

March 6th, eighth day.—9:25 a. m., temperature 99.8 and pulse 89; ordered to-day as a tonic (sputum clear of blood): Fellows' syrup hypophosphite compound, four fluid ounces. Dose, half teaspoonful in a little water every four hours. At 6:15 p. m., temperature 100.8 and pulse 82.

March 7th, ninth day.—9:45 a. m., temperature 99.7 and pulse 84; bowels too loose; gave the following and discontinued the hypophosphite syrup: Oil of turpentine, forty drops; pulverized gum arabic, two drams; crystalized white sugar, one dram; tincture of kino, two fluid drams; sub-nitrate of bismuth, four drams; camphor water, four fluid ounces; make an emulsion. Dose, one tablespoonful every two hours. At 5:10 p. m., temperature 99.6 and pulse 78.

March 8th, tenth day.—Temperature 98.5 and pulse 76; at 10 a. m., patient doing so well that I did not visit him until March 9th, eleventh day, at 6:40 p. m.; found his temperature down to 96.4 and pulse 67; directed whisky every three hours in tablespoonful doses. His low temperature and slow pulse after the inflammation subsided, characterized the other cases also, as will be seen, but no harm came from it, and no complaint was made of great weakness.

March 10th, twelfth day of disease.—4:30 p. m., temperature 97 and pulse 67; found the patient had suffered much the night before from gastralgia; complaining of pain extending from his stomach up to his shoulder blades; gave him the following: Sulphate of morphia, one grain; bicarbonate of soda, half dram; aromatic spirits of ammonia and chloric ether, each, one fluid dram; glycerine, two fluid drams; mint water, one ounce—mix. Dose, one teaspoon-

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ful in a little water every half hour, or every hour or two, according to pain. Directed half ounce of whisky every half hour for a while to bring up the pulse; at 10:30 p. m., temperature 97.5 and pulse 65; still gastralgia; gave one-fourth grain morphine hypodermically.

March 11th, thirteenth day of disease.—At 10:15 a. m., temperature 99.4 and pulse 82; still precordial distress; determined to see what effect a purgative would have, and gave one ounce castor oil in a pleasantly flavored emulsion; put a blister six by eight inches over the stomach. At 5 p. m., temperature 99.4 and pulse 95; at 10 p. m., temperature 99.6 and pulse 95; oil had acted, but as the tongue was much coated, indicating a torpid condition of the secretions generally, I ordered the following: Calomel, sixteen grains; sub-nitrate of bismuth and saccharated pepsin, each twelve grains; make into six capsules. Dose, one capsule every three hours, to be followed immediately after each capsule, by one tablespoonful of the following: Oil of turpentine, ten drops; pulverized gum arabic, two drams; crystalized white sugar, one dram; spirits of lavender (simple), two fluid drams; water, four fluid ounces; make an emulsion.

March 12th, fourteenth day of disease.—9 a. m., temperature 98.8 and pulse 112; calomel had acted well; patient despondent; increased frequency of pulse made me solicitous, and I carried Dr. R. Clarke around to see him with me at 1.20 p. m., when his temperature was 97.6 and pulse 110. We gave him the following: Green iodide of mercury, ten grains; iodide of potash, one dram; simple cerate, one ounce; make an emulsion; ointment for side. Directions, to be rubbed in over the lower lobe of the left lung, which remained slightly hepatized; also, chloride of ammonium, two scruples; aromatic spirits of ammonia and chloroform, each one fluid dram; syrup of tolu, half fluid ounce; mucilage of gum arabic, two fluid ounces—mix. Dose, one teaspoonful every four hours. At 5:30 p. m., temperature 98.6 and pulse 105; at 9:45 p. m., temperature 101.8 and pulse 108; at midnight, temperature 100.8.

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March 13th, fifteenth day of disease.—9:45 a. m., temperature 100.6 and pulse 105; gave bicarbonate of soda, fifteen grains; sulphate of quinine, thirty grains; make into six capsules. Dose, one capsule at six, twelve and six o'clock daily. At 1 p. m., temperature 99.7 and pulse 96. I lost charge of this case at this point. His convalescence being tedious, he and his wife became impatient and sought other medical counsel. I learn he convalesced slowly. This was an unsatisfactory case, but he got well and we should be satisfied.

Case 2.—Mann Wade, black male, aged 19 years. Brought to town for treatment from a farm near by; pneumonia in lower lobe of left lung also. I saw him on the afternoon of February 29th, first day of disease. Ordered him pulverized Dover's powders, ten grains; sulphate of quinine, thirty grains. Make into six capsules. Dose: Quinine, four capsules at 7 o'clock p. m., and two capsules at 7 o'clock a. m., next day. No record of pulse or temperature.

March 1st, 1884—Gave pulverized Dover's powders, ten grains; sulphate of quinine, forty grains; make into eight capsules. Dose, four capsules at 7 o'clock p. m., and four at 7 o'clock p. m. next day. Also, tincture veratrum veride, sixteen drops; fluid extract of jaborandi, two drams; chloride of ammonium, one dram; syrup of tolu, half fluid ounce; mucilage of gum arabic, two fluid ounces—mix. Dose, one teaspoonful every two hours.

March 3d, 1884—Gave calomel and Dover's powders, of each twelve grains. Make into four capsules. Dose, one capsule every three hours.

March 4th, fifth day of disease.—9:40 a. m., temperature, 104; pulse, 103. Recipe: Tincture veratrum veride, twenty-four drops; bromide of sodium, two drams; syrup tolu, one fluid ounce—mix. Dose, one teaspoonful in a little water every two hours. Gave a dose at 10, 12, 2, 4 and 6 o'clock. At 5:40, temperature was 101 and pulse 97. At 7:30 p. m., gave the following: Pulverized Dover's powders,

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six grains; sulphate of quinine, twenty-five grains; make into four capsules. Dose, all at one dose, given at 7:30 o'clock p. m.

March 5th, sixth day of disease.—At 10 a. m., temperature was 98.6, and pulse 71; at 5 p. m., temperature was 100.8, and pulse 79; continuing the veratrum mixture as indicated.

March 6th, seventh day of disease.—At 10 a. m., temperature was 100.2, and pulse 72; same treatment as yesterday.

March 7th, eighth day of disease.—At 10:10 a. m., temperature was 97.8, and pulse 55. Gave Fellows' syrup hypophosphite compound, four ounces. Dose, one teaspoonful in water every four hours.

March 8th, ninth day of disease.—At 4:40 p. m., temperature was 98.2, and pulse 60.

March 10th, eleventh day of disease.—At 5 p. m., temperature was 97.8, and pulse 65; discharged, and no further trouble.

Case 3.—Scott Cabble, mulatto, slender build, male, aged 20 years; pneumonia in lower lobe of right lung. First visit second day of disease, March 5th, 1884. At 5 p. m., temperature was 104, and pulse 108. Gave pulverized Dover's powders, five grains; sulphate of quinine, twenty-four grains; pulverized capsicum, three grains; made into four capsules. Dose, all at 7 o'clock p. m. Also, gave tincture veratrum veride, thirty-two drops; bromide of sodium, two scruples; syrup tolu, one fluid ounce—mix. Dose, one teaspoonful every two hours.

March 6th, third day of disease.—At 10:30 a. m., temperature was 101 and pulse 94. Instructed to control pulse with the veratrum.

March 7th, fourth day of disease.—At 11:30 a. m., temperature was 99, and pulse 92. Ordered pulverized Dover's powders, five grains; sulphate of quinine, fifteen grains; make into four capsules. Dose, two capsules at 7 o'clock p. m. and two at 7 o'clock a. m.

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March 8th, fifth day of disease.—At 5:10 p. m., temperature was 105.2, and pulse 128. Ordered seidlitz powder at 11 a. m. to-day.

March 9th, sixth day of disease.—At 11:45 a. m., temperature was 97, and pulse 72. Ordered the following veratrum mixture, to be given to control pulse: Tincture veratrum veride, twenty-four drops; bromide of sodium, two scruples; syrup of tolu, one fluid ounce. Dose, one teaspoonful in water every two hours.

March 10th, seventh day of disease.—At 12:45, daytime, temperature was 103.4, and pulse 115. Veratrum continued, and gave fifteen grains quinine at 7 p. m., with five grains Dover's powders and two grains capsicum.

March 11th, eighth day of disease.—At 11:35 a. m., temperature was 104.2, and pulse 120. Gave veratrum every two hours. At 5 p. m., temperature was 105.2 and pulse 125. Ordered Dover's powders, five grains, and quinine, twenty-five grains, at 7 p. m., in solution, at one dose.

March 12th, ninth day of disease.—At 12:15, daytime, temperature was 97.8, and pulse 84; no medicine.

March 13th, tenth day of disease.—At 5:15 p. m., temperature was 97, and pulse 56. Gave seidlitz powder.

March 14th, eleventh day of disease.—At 4:45 p. m., temperature was 97, and pulse 56. Gave a tonic and discharged; convalesced without trouble.

Case 4.—Jim Craig, black male, aged 22 years; second attack of pneumonia; left lung involved; brought from country to town for treatment. March 6th, third day of disease, at 9:55 a. m., temperature was 100.6, and pulse 108. Gave pulverized Dover's powders, five grains; pulverized capsicum, three grains; sulphate of quinine, twenty-five grains; oil of sassafras, two drops; make into four capsules, all to be taken at 7 p. m. Also, tincture veratrum veride, thirty-two drops; bromide of sodium, two scruples; syrup of tolu, one fluid ounce—mix. Dose, one teaspoonful in a little water every two hours.

March 7th, fourth day of disease.—At 9:55 a. m., temper-

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ature was 101, and pulse 78. Continued veratrum and gave the following expectorant: Syrup of senega, two fluid drams; syrup squills, four fluid drams; fluid extract of jaborandi, two fluid drams; compound mixture of liquorice, three fluid ounces—mix. Dose, teaspoonful in a little water every three hours.

March 8th, fifth day of disease.—At 5 p. m. temperature was 101.2, and pulse 101. Continued treatment.

March 9th, sixth day of disease.—At 6:20 p. m., temperature was 101.6 and pulse 103; repeated the same quinine prescription as on the 8th.

March 10th, seventh day of disease.—At 11:45 a. m., temperature was 192.2, and pulse 102; continued the veratrum mixture. At 4:55 p. m., temperature was 102.2, and pulse 103. Gave pulverized Dover's powders, seven and one-half grains; sulphate of quinine, fifteeen grains, at 7:30 p. m.

March 11th, eighth day of disease.—At 11:15 a. m., temperature was 99.8, and respiration 33.

March 12th, ninth day of disease.—At 1:35 p. m., temperature was 98.5, pulse 64, and respiration 20. Gave fifteen grains quinine at 7 p. m.

March 13th, tenth day of disease.—At 5:46 p. m., temperature was 98.3, and pulse 53. Put on tonic and discharged.

CASE 5.—Babe of Ellen Smith, black, aged 2 years; pneumonia of right lung, lower lobe; living near Selma. Disease began on March 13th; not seen by me until the morning of March 19th; no physician previously; axiliary temperature, 102.4; pulse very quick, but not counted; respiration rapid and labored. Prescribed calomel and sugar of milk, each five grains; make into one powder, to be taken at once. Also, tincture veratrum veride, sixteen drops; bromide of potassium, thirty-two grains; syrup of tolu, two fluid ounces—mix. Dose, one teaspoonful every two hours. Instructed the mother in its use. Also, pulverized Dover's powders, ten grains; sulphate of quinine, thirty grains; make into four powders. Dose, one powder every evening at 7 o'clock. This patient being out of town a few

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miles, I did not have occasion to see it any more, nor did I prescribe for it again. It recovered under this treatment, in the hands of its mother and friends as nurses.

It will be observed, in reviewing the clinical history of these cases, that the main idea in the treatment was to lower the fever, to sustain the heart and general systemic strength by lessening hyperthermia. Veratrum mixed with a bromide salt was used to slow the pulse and thus lessen fever, and quinine was used in antipyretic doses for the same purpose. No blister to the thorax was used, and no other application thereto, save an occasional rubbing with a liniment of kerosene oil or spirits turpentine. Hot pediluvia were used at night, as a rule. No ice-cold drinks, or ice, were used in any of these cases, but on the contrary, warm teas were ordered, even when there was desire for cold, and the patients were kept covered warm enough to promote perspiration. I am satisfied that the function of perspiration is attended with a general cutaneous plethora; and that it relieves internal visceral engorgement, and thus, by so much, aids for the support of inflamed internal organs. The diet of these cases was principally of sweet milk; when taken regularly, one gill was ordered every three hours, making thus a quart in twenty-four hours, which I have found to sustain strength very well.

The antipyretic value of quinine is particularly well shown in the case of the mulatto boy Scott Cabble. On the evening of the 5th day of his disease at 5:10 o'clock, his temperature was 105.2 and his pulse was 128; gave five grains Dover's powder and 25 grains quinine at one dose in four capsules at 7 o'clock, p. m. At my visit next morning at 11.45 o'clock his temperature was 97 and his pulse 72. Again, on the 8th day of his disease, at 5 p. m. his temperature was 105.2 and his pulse 125. Ordered now five grains Dover's powders and 25 grains of quinine in solution at 7 p. m. Next day, at 12:15, the ninth day of his disease, his temperature was 97.8 and pulse 84. He never required much medicine after this, though his pulse and temperature remained sub-normal for several days.

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I can not do better than to pause awhile to give expression to my very great admiration for Theodore Juergensen, of Kiel. The articles by him entitled "Crupous Pneumonia and Catarrhal Pneumonia," in Vol. V, Cyclopedia of the Practice of Medicine, Ziemssen, is well worth the price of the whole work, by reason of the value of the instruction they contain and their capacity for good to the human race. He there displays traits of character which mark him as one of nature's noblemen, and as one of the great men of the age; great in strength of mind, and great as a physician. Painstaking, thorough, brave, logical, learned, indefatigable, perfectly reasonable, original as a writer, perspicuous, full and fascinating, these articles will do for the constant study and guidance of the conscientious practitioner. The more he studies them the more he will learn from them; in fact, to become a successful follower of this bold leader it is necessary that one study him closely, and become fully versed in his methods before he tries them. The want of fully comprehending them is the reason that odium is sometimes brought upon them. The very boldness of the doctrine he teaches us startles and makes us afraid. I acknowledge myself to have been among this class—I believe now to my sad cost. When we read as follows on page 163 of this volume, it makes us afraid of the man, yet his success ought to reassure us:

His daughter, "then only nineteen months old," was "for the third time within a brief period, attacked with a severe pneumonia. The temperature rose above 105.8 Fah. and returned so quickly after baths of 60.8 Fah. that I found myself compelled to reduce the temperature of the water to 41 and 42.8, and to continue them for ten minutes. My child recovered, and at no time during the employment of these extreme measures, extending over several days, was there the slightest indication of collapse. Since that time I have repeatedly treated patients in this manner without bad results. One precaution, however, I must most positively insist upon: a patient with pneumonia must never be bathed

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without the administration of stimulants before and afterwards, and the amount of stimulants must be increased when water of a lower temperature is used, or the duration of the bath is lengthened."

This is truly heroic practice according to my ideas, and yet his child recovered! That was as well as any one could have done. I yet fear to follow this bold man, but may, as all of us may, live long enough to appreciate the value of the treatment and to know how to use it.

Here are some late quotations from the March number of Gaillard's Journal:

COLD BATHS IN PNEUMONIA.—Bruguatelli (*Italia Medica*, 1883, p. 293) concludes that the objection of the patients to cold baths are easily overcome. The convalescents cured by this means soon induce the others to submit. The pneumonics bear bathing well, and in Dr. Bruguatelli's experience collapse has never occurred. Advanced age even, in his opinion, is not a necessary contra-indication to their use. The pulse in general relaxes; respiration remains the same. Bathing calms the patient and calm slumber often results. The cold bath produces a notable and permanent lowering of the temperature.

TREATMENT OF PNEUMONIA.—Bamler, University of Freiburg, Baden, directs his efforts chiefly towards sustaining the patient's strength until the disease leaves him (*Medical Record*). The pyrexia being a chief cause of exhaustion, he endeavors to keep down the body-heat, which he does by cold baths, wet packing and quinia in 15 to 20 gr. doses, in the evening, or grains 60 to 80 of sodium salicylate within an hour in the middle of the night. The patient's diet must receive careful attention; be sufficiently nourished by broths, beef tea, milk, and a half to a pint of light wine, in twenty-four hours. When there are pleuritic pains, an ice-bag is applied to the chest. Restlessness, great pain or diarrhœa, is to be met by morphia or Dover's powder. If bronchial catarrah is a prominent symptom, ipecacuanha in infusion is administered. He never employs sweet spirits of nitre in pneumonia.

It is not believed that you can cure pneumonia by this plan, so to speak, but most authors agree with Juergensen that "pneumonia is sometimes aborted by energetic treatment." We stand a better chance of aborting it by this plan than by any other. Pneumonia is a disease which runs a typical course. Nature cures, and the only duty of the physician is to maintain life until this cure is effected.

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It is the fever that kills in this common disease; and if not arrested by energetic treatment it is almost sure to kill if the disease is severe. If we bear this fact in mind and constantly utilize it in treatment there will be much less mortality. Fever kills by lessening heart power and increasing general systemic oxidation. How are we to lessen fever? In the earlier stages by the use of veratrum, which Juergensen does not approve of, however, preferring tartar emetic. If you lower the pulse rate and maintain it the temperature is certain to fall. In my first case I gave veratrum at 10 o'clock, a. m., with a temperature of 101.8 and a pulse of 101, and at 5:30 p. m., the pulse had gone down to 65 and the temperature down to 97.8. And in the second place, by the use of quinine in antipyretic doses. The antipyretic property of quinine is fully established; and there can no longer be any doubt as to its safety. There are some persons upon whom it has toxic effects, beyond doubt, and as Thomas says, in the same work alluded to above, who is a great advocate of its use in typhoid fever in antipyretic doses, it is well to know your patient when you use these very large doses. Some caution is doubtless necessary. Juergensen usually gives 30 grs. in solution in one dose to an adult with a moderately severe attack of pneumonia, between six and eight o'clock, p. m.

"For children I (Juergensen) use a grain and a half for every year up to five years of age, and after that period from seven to fifteen grains, according to circumstances. These quantities may be exceeded without doing any harm. When the fever is intense, seventy-seven grains may be given to a strong adult, and fifteen grains to a child under one year, always in one dose. I have repeatedly used both of these amounts." "My teacher is experience." Thomas confirms this statement by an experience of the use of quinine in these doses in over 40,000 cases; he, however, never having exceeded the use of forty-five grains at once. In confirmation of the safety of the use of quinine in large doses, and of its positive antipyretic action, we have the result of the

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experience of Prof. Germain Sèe, of Paris, a man whom we regard as prudent and painstaking in his researches, and careful in what he publishes to the world:

FOREIGN CORRESPONDENCE.

[*Journal American Medical Association. March* 1, 1884.]

PARIS, FEBRUARY 8th, 1884.

Prof. Germain See and Dr. Bochefontain, his "chief de laboratoire" at the Hotel Dieu, lately undertook a series of experiments as to the physiological action of the sulphate of quinine, which were afterward compared with the results obtained clinically at the hospital. The following is a summary of their paper on the subject which was read at a recent meeting of the Academy of Sciences:

In the healthy human subject, the sulphate of quinine lowers the temperature to a very insignificant degree; the oxidations, however, undergo marked diminution; the pulse becomes slower, and the blood-pressure is lowered. In the typhic patient, the temperature is lowered after the first gramme, and particularly after the second gramme of quinine; it falls one degree and a half in six or eight hours, and the effect persists for a day and a half. The oxidations diminish in the same proportion. The pulse-rate becomes much slower than in the physiological state. The blood-pressure, which falls constantly under the influence of hyperthermia, rises to the normal condition; there is, besides, increase of the contractile energy of the heart. *The sulphate of quinine alone preserves the force of the heart and increases it.* Moreover, as it diminishes the febrile heat directly, without previously increasing the combustion, as is the case with cold baths, it stops dicrotism, and the arterial tension, which was considerably diminished, resumes its normal strength. It is therefore a powerful antipyretic. If, in the physiological state, it diminishes vascular pressure, it is because it does not produce a marked diminution of the normal temperature.

The judicious use of veratrum will lessen fever and save strength; it has a double action, lowering the pulse rate and depressing nervous action. The use of this drug, combined with the judicious antipyretic use of quinine will, in my opinion, do much to lessen the danger of pneumonia and to increase the comfort of the person so affected. As yet I am not in the position to recommend or endorse the cold water treatment.

In using this plan of treatment (the veratrum) the physician must not delude himself into the hope that he will materially cut short the term of the disease; he must not, under this belief, lay on his blows too heavily. Pneumonia,

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as a rule, is self-limiting, and will last from six to eight days. The idea is to sustain the strength of the patient by lowering temperature and maintaining it; by slowing the pulse rate and maintaining it; by procuring necessary sleep by judicious use of opiates; and freedom from pain when it occurs by the same agents; and by the use of sufficient nutritious food in easily digestible shape, until the disease has time to run its course.

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ICTERUS GRAVIDARUM.

BY EDWARD H. SHOLL, M. D., OF BIRMINGHAM,

Ex-Vice President and Junior Counsellor of the Medical Association of the State of Alabama.

As the words jaundice of pregnant women fall upon the ear, they do not convey the fearful meaning they sometimes carry, save to those who have confronted the disease in its gravest form, or have familiarized themselves with the somewhat scanty literature on the subject.

Frerichs, in his first volume on Diseases of the Liver, goes into it more elaborately than any author accessible to me. Underhill has given us a most valuable monograph on the subject, and Tanner, in his very valuable work on the Signs and Diseases of Pregnancy, devotes but four pages to it. The object of this paper will be to give a brief clinical record of a case coming under my notice recently, and to draw a few practical deductions that may prepare the minds of others for a better, more careful and guarded interpretation of the symptoms, course and result of any similar case that may come under their care.

October 29th, 1883.—Dr. Jordan and I were called by Dr. Dozier to assist him in a case of difficult labor, shoulder presentation, at seven months term, the lady being twenty-two years of age. With very great difficulty, after several trials, turning was accomplished, and a still-born child delivered. Twenty minutes having passed without any efficient uterine contraction, and hemorrhage being more than ordinarily free, the placenta was removed with great trouble and every part that could be detached without dangerous effort was removed, and the flow became natural. The next morning, being again summoned on account of a copious

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hemorrhage, a small portion of the placenta, a little larger than a dime, was removed readily just from within the mouth of the womb, and the discharge was stayed. The morning light revealed what had been mentioned to us before, a slightly jaundiced condition of the skin, which had begun about eight days prior to this time, and had continued without any particular discomfort, save some atony of the bladder which required the use of the catheter, and a rather freer lochial discharge than ordinary, with wakefulness at night requiring moderate opiates. Nothing unusual presented itself excepting the rather frequent movement of the bowels. The discharge was about the consistence and color of putty, a grayish white, well moulded. The quantity was unduly great, even although the patient was eating normally. The tendency to hemorrhage up to this time occasionally manifested itself; not, however, in depressing quantities, and was readily controlled by hypodermics of ergotine, twenty grains to the dram of water. About November 3d, a distinct and sharp febrile paroxysm ushered in a new train of symptoms, and pneumonia of the right lung proved to be the cause. The temperature ran up to 103 and 104, nausea occasionally became a disturbing factor, followed soon by paroxysms of vomiting of a greenish, glairy mucus. An occasional characteristic bloody expectoration, with cough and acute pain in the side, gave unmistakable evidence of a grave trouble. The skin gradually assumed a somewhat deeper yellowish tinge, and on the night of November 5th an alarming uterine hemorrhage took place. Clots were removed, ergotine administered hypodermically, and although the trouble was for the time controlled, it now became evident that we were face to face with a very grave malady of unusual type, with which neither of us were familiar, save Dr. Jordan, who had passed through a previous visitation in Birmingham of this jaundice, and he gave a gloomy prognosis. With this hemorrhage, however, came almost at once a subsidence of all the threatening symptoms in connection with the lung; respira-

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tion became almost natural, and resolution of the pneumonia was distinctly defining itself; appetite was pronounced, thirst natural, temperature about normal, and general appearances were favorable and hopeful; the volume of the circulation was good, and our patient's strength was good; in fact, all the indications then pointed to a speedily favorable issue. The calm, however, was illusory and deceitful. Again the uterine hemorrhage manifested itself, only to be partially controlled by ergotine hypodermically; the tampon and all other appliances that could be brought to bear upon the case. Life was leaking away. The stomach again began to sympathize; vomiting became almost constant; from a light green it changed to the sooty black vomit of malignant swamp fever, or yellow fever; the uterine oozing steadily ran out the forces of life; restless, sighing respiration came on, the extremities became cold, the pulse feebler, and soon our patient, on the morning of November 9th, with intellect clear and undisturbed almost to the last hour, died a victim to the uncontrollable uterine hemorrhage of this terrible jaundice, clearly the result of atrophy of the liver. No *post mortem* was made, the case interpreting itself by the simple record of all the past cases of this kind —"Who enters here leaves hope behind."

Dr. John W. Sears, of Birmingham, Alabama, in a careful article on jaundice, gives a brief record of the epidemic of jaundice, as it prevailed in this city from September, 1881, to January, 1882; and speaks of the cases then ocurring in the city among pregnant women with unusual fatality, and recognizes its gravity.

Underwood says: "Indeed, it is doubtful whether a well authenticated case, existing with gestation, has ever been known to recover."

Tanner says: "It has been doubted whether recovery ever takes place; but however this may be, I know of no reported case in which there has been a favorable termination during pregnancy."

Frerichs says: "The termination has almost invariably

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been fatal. This result has been so constant that the few observations which have been recorded of a cure taking place, must be regarded as of a very doubtful character; and the more so, as most of them have occurred at a time when only a few examples of the disease had been collected, and when there was nowhere any accurate account of it to confirm the diagnosis."

Frerichs says of the *post-mortem* condition of the liver: "The size of the organ is diminished in every direction, but especially in its thickness the gland is flattened out. The capsule presents an opaque, puckered appearance; the parenchyma is flabby and shrivelled, so that it is unable to bear its own weight, and folds up and collapses in front of the vertebral column." As to the nature of the disease, he says: "Changes of structure may be detected, which appear to prove that the destruction of the glandular elements and the collapse of the parenchyma are preceded by hyperæmia and exudation." This is in accord with the inception, course, and termination of the disease.

Various causes conspire in the pregnant female to the production of this disease. Among them is laid down mental emotion; and this, from the peculiar surroundings, was the predisposing cause in our case. At the time of her seizure, jaundice was prevalent in our city, and still is, and the cases, many of them, have been of severe and most obstinate type, and particularly in non-pregnant women, were of an aggravated and distressing character, though not fatal in issue. They were insubordinate, lingering through many weeks, and particularly attended for many days with constant and distressing nausea that found no relief save in hypodermics of morphine, which could not be denied with any safety or comfort to the patient. Add, then, to this grave type of jaundice the disturbing element of pregnancy, and it may be readily seen why the trouble was of such magnitude, and why all efforts to relieve were futile. That which disorganizes and disturbs the elaborate workings of the functions of the liver, must have behind it some cause

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potential enough in its own right to set aside and defy every effort at repair. If the question is asked, why the complication of pregnancy so embarrasses the organism as to set up a destructive force, which oftentimes destroys life in a few hours, or a few days at farthest, the answer cannot be given. The scalpel and the microscope reveal to the pathologist the unmistakable record the disease has left, but do not unfold to the eye of sense the subtle and inscrutable cause. In dealing with the inorganic forces, man lays bare the ultimate atom, disrupts, unites, and reveals the secret of their hiding place and power; but here metes and bounds are laid to all human wisdom, and all uncontrolled, in her subtle alembic nature distils that poison which, all unbidden, corrupts and destroys.

Here, then, I let the subject rest, and shall be amply satisfied if this brief history shall direct the attention of the profession of our State to a careful observance of any similar cases that may present themselves, and shall assist them in a discriminating diagnosis, and guard them in interpreting the possible issue of the disease.

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PLACENTA PRÆVIA IN ITS RELATION TO UNAVOIDABLE HEMORRHAGE.

BY ROBERT DICKENS WEBB, M. D., OF LIVINGSTON,

Ex-President and Grand Senior Counsellor of the Medical Association of the State of Alabama, and formerly member of the State Board of Censors and Committee of Public Health of Alabama.

At the request of the president of this Association, I have consented to write something upon placenta prævia, in its relation to the unavoidable hemorrhage, which renders this condition so dangerous to the parturient woman, and so much to be dreaded by the accoucheur. No dogmatic rule can be laid down for the treatment of placenta prævia, but each case must be managed according to the phenomena, *i. e.* location of the placenta in regard to the os uteri, state of the os and neck of the uterus, character of pains, amount of hemorrhage, and condition of the patient; but at the same time, in accordance with certain general principles to be hereafter mentioned. While we may not be able to make a definite classification of these cases, for the varieties merge one into the other, yet, for convenience in speaking of the application of the principles of treatment, we may divide them into two classes, based upon the position of the placenta: (1) Where we have the placenta on the side of the neck, and only partially over the os, and (2) where the placenta entirely covers the os. It would be natural to suppose that those cases in which the placenta is only partially over the os, would be less dangerous than where it is centrally located; but the results of a large number (1023), tabulated by Dr. William Read, in his monogram upon placenta prævia, show the opposite to be the fact. These tables show that where the placenta is located centrally, or

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nearly so, in quite a number of cases, if the pains are vigorous, the placenta will be spontaneously separated, and the labor terminated safely by the unaided efforts of nature. And even in these cases of spontaneous separation, where the pains are not vigorous enough to complete the labor in time to be safe to the mother, or where the presentation is such as to require artificial aid, the danger to the mother is less than in those cases where the separation is only partial. This is to be accounted for by the fact that these cases of spontaneous separation and natural completion of the labor occur almost universally where the condition of the os and neck is such as to offer but little resistance to the effect of the pains, or to the artificial means used to complete the labor when the pains are not vigorous enough for a speedy termination. It may also be remarked that this condition of the os and neck is hardly to be expected in primipara, and hence such cases are found almost invariably in those who have before borne children. Of the seventy-seven cases of this variety given by Dr. Read, only three were primipara; of the fifty-two cases which terminated by the efforts of nature, there was no death; and of the twenty-five which required artificial aid, only five died. These results show that these spontaneous and entire separations are much safer than those in which it becomes necessary to detach the placenta artificially.

Acting upon this idea, and upon the opinion that the hemorrhage was alone from the placenta, Dr. Simpson, of Edinburgh, instituted his method of separating the placenta, and then leaving nature to complete the labor. But we may readily see, as indicated in what has already been stated in regard to these entire spontaneous separations, and when we come to apply the principles of treatment to the different varieties, that this method of treatment is applicable to only a small proportion of cases, viz.: such only as those in which the condition of the os and neck are such as to admit of a ready separation of the placenta, and in which the pains are sufficiently vigorous for a completion of the labor in a

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reasonably short period. But I am anticipating what would be more properly said after giving the principles of treatment. These two classes may be sub-divided in several varieties or modifications, dependent upon amount of hemorrhage, condition of the os and neck of uterus, and the character of the pains, and though we may not be able to draw distinct lines of demarcation between these varieties, yet we may make for convenience, at least four varieties in class one and two, and two in class second. In class first, we may have *(a)* slight or moderate hemorrhage, at intervals, some weeks, or even months before the completion of the term of gestation, with closed os and rigid neck; little or no pains. *(b)* Considerable, or even severe hemorrhage, at or before the completion of term, with open os and dilatable condition of neck, with little or inefficient pains. *(c)* Sudden and alarming hemorrhage (gush of blood) generally at or near completion of term, with os closed and neck rigid, with deficient pains. *(d)* Sudden and alarming hemorrhage, as in *(c)*, with os open and neck soft and dilatable, with good pains.

In class second we may make two varieties, which correspond in symptoms to varieties *(c)* and *(d)* in class first, and differ from them only in the fact that here the placenta is centrally located, and is often spontaneously separated, and delivered in advance of the child. I would not, however, be understood as saying that we never have moderate or slight hemorrhage in centrally located placenta prævia, but only as not being generally the case. This classification is made, not that it is exact, but for the purpose of more systematically applying the principles of treatment, which I will now endeavor to set out as plainly as possible, and then give their application more in detail as suited to the different varieties. We have hemorrhage to deal with, and the principles of arresting it are very much the same as in any other hemorrhage. These are all included in three principles, as given by Dr. T. G. Thomas in a lecture before Kings county medical society in 1881: 1st. We have the

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restraining measure, or the application of a hæmostatic, which may be mechanical or chemical, to the mouths of bleeding vessels, by which clots are formed in them and the hemorrhage thus arrested. 2d. The method of compression, by which the bleeding vessel is compressed between two opposing surfaces, and thus time is given for the formation of a clot; and 3d, Ligature, by which a constricting force is applied directly to the bleeding vessels.

To one or the other of these principles, all the approved methods of controlling the hemorrhages arising from placenta prævia may be referred. The first is represented by tampon, the second by compression of the placenta between the bony pelvis and the presenting part of the child, and the third is represented by the constricting force of the uterus in contracting upon the bleeding vessels, and thus practically applying a ligature to them. All other remedies (such as turning, separation of placenta, rupturing membranes, ergot, ice, hot water, galvanism, &c.,) are but adjuncts to one or the other of these three principles. Let us, then, apply these principles to the different varieties set out in the above classification, and when the case under treatment deviates from conformity to these varieties, as it often will do, we must apply the same principles, varying them, or combining them, as a well informed judgment may indicate, to suit the deviation from the typical variety. It will be seen, then, that there is no difficulty in grasping the principles involved, but the difficulty lies in a wise selection and judicious application of these methods. The first and second, constraining and compression, are applicable to varieties *a*, *b* and *c* of the first class, while the first and third, constraining and ligature by contraction, are applicable to varieties *d*, of class first, and to the two varieties of class second. One of these principles, constraining by tampon, may be used in either class, where the hemorrhage is not immediately alarming, while compression can only be used in class first, where the bleeding vessels may be jambed, so to speak, between the presenting part of the child and the

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bony pelvis. We readily see that when the placenta is central and wholly in advance of the child, as in class second, the contraction of the uterus (the compressing force) will only push the placenta before it, and thereby increase the hemorrhage by still greater separations. The third ligation by contraction of the uterus may be used either in the severer varieties of class one, or in the two varieties of class two, by using the means (forceps, turning, ergot and electricity,) suitable to hasten the completion of the labor, and giving the uterus a chance to contract.

Let us now illustrate the application of these principles of treatment by giving a case in each of the varieties, with the course which we should pursue. Class first *(a)* slight or moderate hemorrhage, at intervals, some weeks, or even months before the completion of the term of gestation, with closed os and rigid neck, and little or no pains. In such a case as this, where the condition of the patient is good, you may by quiet alone, often manage the case and the patient may go on to full term, when on the approach of labor the hemorrhage is augmented, and you will have to deal with some one of the other varieties. But this process of quiet will not always answer, and where in such a case the hemorrhage is somewhat continuous, though slight, and is in any degree telling upon the condition of the patient, it is safest to resort at once to the tampon, by which you bring into play the first principle of arresting hemorrhage, and cause clots to form in the mouths of the vessels upon the detached placenta, and opposite surface of the uterus. After twelve or twenty-four hours your tampon may be carefully removed, and you will in most cases have the satisfaction of finding the hemorrhage controlled, and of seeing your patient go on to full term. But you may not be so fortunate. The tampon may have been carelessly applied, and the hemorrhage may have continued to find its way by its side, or it may have been loosened by imprudence of the patient, or contractions of the uterus.

The following case, given by Mr. J. Thompson (Glasgow

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Medical Journal, July, 1855,) will illustrate this condition of affairs:

"Mrs. A., in her eighth month of pregnancy, in a fit of coughing, had a sudden discharge of blood from the vagina. On arrival I found the hemorrhage still continuing, and that occasional pains were felt in the back. When the large coagula which plugged the vagina had cleared away, the os uteri was felt high up, and completely closed. Following the advice of Dr. Burns, when he says, 'if the os uteri be firm and close, we ought to use the plug,' I used this means, which arrested the hemorrhage for the whole day. The plug was removed during the next night in my absence and the hemorrhage was again immediately renewed. I did not see the patient for some hours, and found that the hemorrhage had been great, and the patient looked pale and exsanguin. The os was now found to be dilatable. This being the case, turning and delivery of the child was the work of a very few minutes, with very little loss of blood. The patient expressed herself as comfortable, and but for the rapidity of the pulse everything seemed to wear a favorable aspect. She remained in a feeble condition, with rapid pulse until the third day after her delivery, when she died."

If the tampon had been more securely applied in this case, and remained until removed by the accoucheur, the result might have been different. And as the proper use of the tampon is a measure of very great importance, I will, in this connection, describe the method of its application. Imperfectly applied it is a useless, and even dangerous remedy, as it may lull us into a false security. It should never be attempted without introducing a speculum, so as to expose to view the os uteri. In the absence of a proper instrument one may be extemporized from thick paper, or paste board. The best instrument for the purpose is Sims' speculum; or two fingers of an assistant may be used to lift the perineum. After the os is in view, if there is but slight dilatation, a pledget of wet cotton should be introduced into the os with tolerable firmness. It is better to

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use, if at hand, absorbent cotton, wet with some antiseptic fluid, as by this means you may let the tampon remain in longer without danger of septic influences. For this purpose thymol, carbolic acid, solution of bi-borate of soda, or of bi-chloride of mercury may be used, the last probably the best, strength of 1 to 2000. After the pledget is introduced into the os, pack around the intra-vaginal portion of the uterus in Douglas' *cul de sac*, and also in the anterior aspect, pledgets of cotton wet with the antiseptic fluid, until they are firmly wedged around the neck of the uterus. Then the vagina should be filled with similar pledgets of cotton and a compress placed over the vulva and held in place by a suitable bandage. In addition to this, if there is a laxity of the walls of the abdomen, an abdominal bandage should be firmly pinned around the abdomen to guard against the possibility of internal hemorrhage. A tampon thus applied will be found to be a safe and efficient remedy in all these cases where the os is only slightly dilated, and may be resorted to without fear under such a condition of the os, at any stage of pregnancy, and even where the hemorrhage is severe. But even where the os is considerably dilated or the neck in a dilatable condition, and the hemorrhage not threatening, we may resort to this measure for the purpose of gaining time and permitting the neck to become more completely dilated, and prepared for the more active measures of other varieties. In such a case the application of the tampon is somewhat different. Here we may pack the open os and neck firmly with pledgets of antiseptic cotton, and then as before fill the vagina and apply the bandage; or we may adopt the method of T. G. Thomas, which he thus describes: "My plan is, when I wish to tampon a woman for placenta prævia, to take a piece of linen, make a conical bag, somewhat smaller in diameter than the vagina, stuff it with cotton until it is quite hard, and sew up the base. I then turn the woman upon her left side, and introduce a Sims' speculum, remove all the blood I can, and then push the apex of this cone into the uterus as far

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as I can make it go. It can do no harm. I then tampon around it, fill the vagina and put on a strong T bandage, which keeps the compress firmly against the cervix. Now, when the uterus contracts it is forced upon this cone, and gradually three things are accomplished: first, coagulation of blood is favored; second, the cervix is dilated by the pressure of the elastic plug; and third, direct pressure is brought to bear upon the bleeding vessels."—Medical Bi-Weekly, October, 1881.

I have dwelt thus at length upon the tampon, because it is a measure of the greatest importance, and one that will be often called for in these cases. But whatever method is pursued, be sure by sufficient examination (occular, if need be,) to convince yourself that the hemorrhage is for the time controlled, and is not trickling down by the side of your tampon. The tampon well placed will control the hemorrhage and enable you to conduct many cases to full term, or if, in the latter months of pregnancy, will give time for the uterus to dilate, and be in proper condition for introducing the hand, detaching a portion of the placenta, rupturing the bag of waters, and thus permitting the head to pass down into the bony pelvis, and bring into action the second principle—compression of the bleeding vessels; or, of turning and completing at once the labor, and thus bring into action the third principle—contraction of the uterus upon the bleeding vessels. These measures are to be more carefully considered in illustrating the treatment of the remaining varieties.

We are now ready to consider variety *(d)*. Considerable, or even severe hemorrhage, at or before the completion of term, with open os and dilatable condition of the neck, with little or inefficient pains. Here three courses of treatment are open to us, and we may resort to the one or the other, according to the condition of the patient. And here I may remark that the condition of the patient, the effects of the hemorrhage upon the constitution, is a matter that should receive considerate and careful attention; and this

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must often influence us in the choice of the method to pursue in any given case. Some patients bear hemorrhage much better than others, and what might be a serious or alarming hemorrhage in one patient may be borne by another without very serious disturbance of the system. This, then, is a factor that should always influence our action. Let us suppose in the above variety that although the hemorrhage is copious, it has had but little effect in reducing the strength of our patient, and her condition may be said to be good. We may then without hesitation resort to the tampon, so as to give time for a full dilatation of the neck of the uterus, and then by the use of ergot hypodermically, (the method is important), or of electricity, if it be at hand, vigorous pains may be established and nature may complete the labor safely without further aid. Or, we may, after waiting a sufficient time for dilatation, remove the tampon, introduce the fingers and detach a portion of the placenta on one side, rupture the membranes, if the pains are reasonably good, and the hemorrhage will be controlled by the pressure of the child against the sides of the bony pelvis until the labor is safely completed; or, third, we may resort at once, where the condition of our patient seems to demand it, to the introduction of the hand, turning and speedy delivery.

Here it will be seen that the ascending series of Dr. Churchill is observed. "It is peculiar," says he, "to midwifery operations that they form an ascending series, increasing in gravity from the simplest to the most severe, no two being equal; and, therefore, in considering the suitability or practicability of any one, we do so with the knowledge that if the one does not succeed, we must have recourse to another, more severe and more dangerous." But in making our selection in this series, we are to use the soundest judgment, and not be led into a dangerous temporizing, where a more decided action would be safer. And here I may remark that decided measures, among which turning and speedy delivery may be placed first, are more

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in favor at the present day than a few years ago; and the advocates of this measure say, with much show of plausibility, that the dangers which have been attributed to turning are in a great degree due to unnecessary delay, whereby the condition of the patient is reduced to such a state as to render her unfit for any proper method of treatment; and to my mind, the argument is correct, and I have in my practice made it a rule not to use it until this seems a last resort. I have turned in five out of six cases that have been managed by myself, with success in every case except one, and this one was not only a case of placenta prævia, with fearful hemorrhage at seven and a half months, but also of severe eclampsia, the spasms returning every half hour. Here, although the os was rigid, it dilated rapidly, and I succeeded in turning and delivering a living child. The mother continued to have severe eclampsia, and died in one of the seizures, one hour after the labor was terminated. Hemorrhage was completely controlled, and with the exception of the eclampsia, her condition was reasonably good.

In this connection, it is pertinent to quote the conclusions of Dr. Hofmeir (American Journal of Medical Sciences, July, 1883): "His experience extended over forty-six cases, thirty-five of which were delivered in one year. He first excludes from the forty-six cases three who were so far gone from hemorrhage when he arrived that there was no chance for any treatment. The usual rule of treatment is to tampon until the cervix is sufficiently dilated. This rule the author opposes. He scarcely ever uses a tampon, and as to the cervix, his rule is only to wait until clear symptoms of labor set in—*i. e.*, either uterine contractions, or funnel-shaped dilatation of the cervix. He then proceeds as actively and speedily as possible. This rule was followed in thirty-seven of the forty-three cases, after unfavorable experience in other methods with the rest. In nineteen cases, the cervix was perfectly dilated; in eighteen, either entirely closed, or only with funnel-shaped dilatation. The earlier the operation, the more of necessity is the

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choice of it limited to the combined external and vaginal version with one or two fingers—the Weigand-Braxton-Hicks method. This was done in thirty cases; three times internal version was performed, and once the forceps applied. After the foot or knee is brought down, the rest of the labor should be slowly accomplished. Only one of the thirty-seven cases treated in this way died, and she had been treated for twenty-four hours with the tampon, and the placenta was foul and offensive when delivered. She died seventeen days after, from phlegmon and phlebitis of the thigh. The author believes she would have been saved if action had been more prompt. Counting this case, gives only 2.7 per cent. out of the thirty-seven cases, which is far above any published rates."

This is a remarkably favorable result, and if it shall hereafter be attained by others, will establish early and speedy delivery as the safest rule, even when the os is rigid, or very slightly dilated. I am free to confess that my preferences lean in this direction, and in the only case in which I have waited, I should now, under similar circumstances, act more promptly. In this case, the mother was saved, but the child lost. In one of the others, the tampon was ineffectually used, and then turning used with success to both mother and child. In the third, seen in consultation, the hemorrhage had already produced a sensible effect upon the condition of the mother, and turning was at once resorted to, with the best results to mother and child. The two remaining cases were of that fearful variety in which no time was to be lost, and turning was immediately performed. We see, then, that it is not an easy matter to determine what course to pursue; but whichever one is determined upon, carry it out efficiently, with an unfaltering hand. But I must hasten on, or this essay will grow to too great a length. (*c*) Severe hemorrhage. It may be sudden and alarming, generally at or near the completion of term, with os closed and neck rigid, and pains deficient. Here is a case which requires prompt and efficient treatment, and

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we have, as in the last variety, the choice of the three same methods, with this difference, that a resort to detaching the placenta and rupturing membranes, and to turning, are rendered more difficult, and hence more dangerous than in the other variety.

The best published results seemed to have been reached (if we except those of Dr. Hofmier,) by the use of the tampon, followed by detachment of the placenta, and the administration of ergot so as to secure efficient contractions of the uterus. But here there would seem to be the greater necessity for active measures. If the hand is sufficiently in the uterus to detach the placenta, why not turn and deliver at once? The following case in my own practice will illustrate this: I was hurriedly summoned to a woman in her eighth pregnancy, at or near full term. A fearful gush of blood had come on without warning, and without known cause. I found her much exhausted by the hemorrhage, surface cold, pulse rapid and feeble, and the patient faint and almost blind. On examination I found the os rigid; so much so that I could not determine with certainty in my hurried examination the location of the placenta. The hemorrhage was still going on at a fearful rate, and no pains. I determined to deliver at once. To this end I used the finger and then the four fingers in cone shape as dilators, and soon succeeded in reaching the placenta, attached partially over the os, and carried the hand as rapidly as safety would admit, into the uterus, detaching a portion of the placenta, seized a foot, and brought down the breech. Ergot was freely administered, which caused the uterus to contract, and with what traction I made on the foot, jammed the breech into the pelvis, and by compression controlled the hemorrhage. A few pains, with slight traction, terminated the labor. The placenta followed almost immediately, and my patient was in a favorable condition. By the aid of stimulants, she soon rallied from the depression, and made a good recovery. The child was still-born, as it no doubt would have been, had I pursued a less active course.

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In such a case, with less fearful hemorrhage, the tampon might be used, but here there seemed to be no time to wait, and the result justified the more active course.

The remaining variety of this first class *(b)*, with sudden and alarming hemorrhage, as in the last variety, but with a dilatable neck and os, and good pains, though quite as alarming in appearance, is not so difficult to be managed. Here the tampon is unnecessary, and to a great extent impracticable. Two methods remain—detach the placenta, and await the action of the uterus, assisted, if needs be, by ergot, and the method of turning and delivering at once. The latter, I think, is to be preferred, and offers greater safety to the mother, and equally good chances to the child.

The two remaining varieties found in class second, correspond nearly with the last two of class first, differing only in the locality of the placenta. Here the placenta is centrally located, and the hemorrhage occurs generally at or near the end of term, when the lower segment of the uterus has attained its full growth, and the os is more readily dilatable. The tampon here is of no service, and we can derive no aid from compression by the presenting part of the child; for, the placenta being entirely in front of the child, is only pushed forward by each contraction of the uterus. We must, then, resort either to Simpson's method of entirely detaching the placenta, and await the action of the uterus to complete the labor, or we must turn and deliver at once. The latter method, to my mind, offers much the safer plan; for, as already remarked, why withdraw the hand after detaching the placenta, when it is an easy matter to seize a foot, and make sure of a doubtful case? The dangers of turning have, as already indicated, been arrested in these cases, and no doubt to a great extent depend upon the unnecessary delay; and with the methods now at hand for the control of the *post partum* hemorrhage, which it is thought this hasty method may promote, we need not run any risk on this account. The woman's life is rushing out with the stream of blood, and there is no time to wait. The following case will illustrate my position here:

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I was hurriedly summoned to Mrs. H. When I reached her bed-side after a delay of some half hour, I found her almost lifeless—cold, voice feeble and husky—pulse hardly perceptible, and the patient almost entirely blind from the hemorrhage. I learned that she had been suddenly, without warning, seized with this terrible hemorrhage. She was now near the expiration of her term of pregnancy. A rapid examination revealed the os and neck dilatable, but she had no pains. The placenta could be felt covering the entire os. The bed was saturated with blood, which had run through the mattress on the floor, forming a considerable puddle. Without delay I introduced my hand, pushing the placenta to one side, seized a foot and terminated the labor at once. The child was born asphyxiated, but by artificial respiration and hot water, was soon caused to breathe. But the trouble was not yet over. Notwithstanding the fact that ergot had been given freely, the uterus refused to contract, and I now had a fearful *post partum* hemorrhage. Hot water being at hand, I carried the nozzle of a Davidson syringe in my hand into the uterus, while an assistant used the syringe. Under the influence of the hot water the hemorrhage ceased almost at once, and by irritating the walls of the uterus with the tips of the fingers, it soon began to contract and made sure the cessation, by ligature of the open vessel. I did not remove the hand from the uterus until by the use of the hot water all clots had been thoroughly washed from the uterus, and its walls were felt firmly contracting upon the hand. From that time she had no more hemorrhage. She remained in a critical condition, of almost collapse, for six hours, but gradually reacted and made a good recovery—happy to the present day in the possession of a fine boy. Too much stress, as Dr. Thomas has justly insisted, cannot be had upon the fact of the judicious use of the hand in promoting contraction. The hot water may be efficient alone, but with the hand in the uterus to guide it and assist it, will rarely fail to procure the necessary contraction.

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To sum up what has been said: (1) There is no dogmatic rule by which all cases of placenta prævia may be treated. (2) A limited number of cases may be trusted to the efforts of nature. (3) The method of Simpson may be used in those cases where the placenta is centrally located, or nearly so, and where the uterus is in such condition that this organ may be readily entered by the hand for the purpose of detaching the placenta, and where the pains are vigorous. (4) A very large proportion of cases will require artificial aid, by one of the three methods, viz: *(a)* The use of the tampon. *(b)* Detaching a part of the placenta, rupturing the membranes, and the use of ergot, and thus causing compression of the vessels by the presenting part of the child, and *(c)* turning and speedy delivery. (5) The selection of the appropriate method in any given case, must be determined by weighing the environments of each case, and particularly the condition of the patient. (6) The question of the alternative of delay, by the use of the tampon, and the more active method of turning and speedy delivery, seems rather to be decided, by latest experience, in favor of the latter.

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A REPORT OF TWO CASES OF TRACHEOTOMY: ONE CASE OF LARYNGO-TRACHEOTOMY FOR THE REMOVAL OF FOREIGN BODIES FROM THE AIR PASSAGES.

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(Reported by Dr. Robert Hughes Hayes, of Union Springs, Junior Counsellor of the Medical Association of the State of Alabama.)

Before relating these cases, it will add much to their interest to discuss briefly the more important operations by which the air-passages are laid open. In a general way, the older physicians included all these in the use of one word—*i. e.*, "Bronchotomy." This general term embraced the operation of thyrotomy—that is (laryngotomy by median section of the thyroid cartilages), laryngotomy by an opening through the cricothyroid membrane, tracheotomy, in which the trachea is opened, and laryngo-tracheotomy, in which both the larynx and trachea are opened. These are the operations usually selected to lay open the air passages, either for the admission of air to relieve impending suffocation in disease, or the removal of adventitious growths and foreign bodies. As all alike require similar indication, preparation and subsequent precaution, the ancient term of bronchotomy was admissible. In the cases I am about to report, there was marked similarity in the history, indications, ante and subsequent precautions, after-treatment and result of each.

We gather a succinct history of these divisions of bronchotomy from Morrell McKenzie, who states that thyrotomy was first brought into notice and proposed by Desault,

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at the end of the eighteenth century, for the removal of laryngeal growths; was not actually performed until the year 1833; then, for the first time by Brauers, of Louvain. Ten years later, it was repeated by Erhmann, of Strasbourg. In 1851, it was practiced by Gordon Buck, and again by Buck in 1861. Later on, the invention of the laryngoscope gave this operation considerable impetus. The operation is rarely called for; is resorted to chiefly for the removal of large growths and foreign bodies from the larynx, and then preferably in adults, as, from the small size of the larynx in children, the vocal cords may be seriously injured. The different statisticians, McKenzie, Paul Brunns, and others, show that thyrotomy is a dangerous procedure, both in regard to life and destruction of function.

Laryngotomy was originally suggested by Vicq. D'Azyr, and subsequently recommended by Fourcroy, Benjamin Bell, and others of the seventeenth and early part of the eighteenth century. A number of arguments were adduced against laryngotomy, but the success of the operation has proven them chimerical, and the attendant dangers of a nominal character. Laryngotomy consists in a vertical incision, made in the median line through the integument, beginning at the centre of the thyroid cartilage, and extending an inch or inch and a-half downward. The crico-thyroid membrane should then be opened by a transverse incision; the crico-thyroid artery and plexus formed by the crico-thyroid veins should first be pushed to one side, and also any extension of the thyroid gland that may project from the isthmus up to the crico-thyroid space. The hemorrhage is generally inconsiderable, and may be easily arrested by pressure with the sponge, or by tortion and ligature of the vessels. From this, it will be seen that laryngotomy, compared with tracheotomy, is an easy operation, and the fear of hemorrhage may be almost ignored. Hence, in sudden emergencies, where time and rapidity of execution are demanded, also when the practitioner is alone, this operation should be preferred.

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Laryngo-tracheotomy consists in carrying the incision through the crico-thyroid membrane, the cricoid cartilage, and the first one or two rings of the trachea. It is very seldom performed, except for the removal of large growths and foreign bodies from the larynx. Such an opening gives a more ready and speedy exit to mucous and other secretions that may be present, giving the operator a better view of the internal larynx, with space sufficient for the introduction of instruments, and also, when necessary, for the finger, the best of all probes.

Tracheotomy dates from about 100 B. C.; was successfully performed through several centuries, but was obscured with the rest of science and literature during the dark ages, being again revived with the revival of learning and the arts. Now it is so universally advocated and practiced that I deem it unnecessary to follow its history any further; nor is it necessary to defend a procedure so clearly and ably authorized by distinguished writers. All the indications for, with the methods of performing tracheotomy, including the preparatory and subsequent treatment, are minutely given in our text-books. My purpose is to recall only a few points here that have a bearing on the two cases mentioned in the caption of my paper—points which also carry conviction of the frequent necessity and success of the operation—a success in which the surgeon's skill is recognized, and human life snatched from the very jaws of death. As to the indications for opening the trachea, it may be performed under a great variety of conditions, but the relief of immediate or prospective dispnœa is always the direct aim. In all cases, the question arises, whether the symptoms are sufficiently urgent to render tracheotomy necessary. McKenzie remarks, very truly, that "we must look for the indication in the thorax. Recession of the lower part of the sternum and contiguous ribs, the retraction of the intercostal spaces and clavicular fossæ at each act of inspiration, call for tracheotomy. The operator must not wait for lividity of the lips, and blueness of the finger nails,

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to prove that the blood is being imperfectly oxygenated." The attendant risk and danger to life in direct incisions into the trachea and larynx are not, as a rule, so great as the continued presence of foreign bodies, adventitious growths, acute diseased conditions, &c., which call for the operation.

It is sometimes difficult to distinguish between laryngeal dispnœa and that of tracheal obstruction. McKenzie gives the diagnostic criteria of the former as "an up and down movement of the part of the larynx, considerable stridor, and generally an alteration in the voice, while tracheal obstruction is characterized by a peculiar hissing noise, caused by the air passing through the narrowed canal, and an absence of movement on the part of the larynx." As to the use of anæsthetics, McKenzie objects to the use of chloroform, stating that if any blood passes down the trachea, the chance of suffocation is much greater when the patient is unconscious; but when anæsthetics are necessary, he gives the preference to chloroform, on account of the irritating effect of ether on the laryngeal mucous membrane. The use and selection of canulas, with a description of the different inventions in that line, are also laid down in all text-books treating of these operations. As we used none in our cases, I simply refer to them.

Tracheotomy may be performed both above and below the isthmus of the thyroid gland, thus making a division into superior and inferior tracheotomy. Both these operations are extensively practiced, and claims of superiority, ease and success laid down for either. In our two cases, we operated above the isthmus, beginning incision at the cricoid cartilage, cutting down to and including the second trachæl ring. From my observation of the ease and success attending their performance, I cannot see wherein the inferior operation could be preferable, unless in case of high situation of foreign body or morbid growth, it be preferable to open the trachea below the offending body, rather than to cut directly down upon it. One other point significant in and attending all these operations is, the difficulty

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arising from hemorrhage, just at the time the trachea is opened; suffocation is threatened, apparently the patient ceases to breathe, the tracheal canal being clogged and narrowed by the presence of mucous and blood. This danger may be avoided by carefully arresting all hemorrhage ere the trachea is opened. For this purpose ice, thermo cautery, tortion and ligature of all bleeding vessels is advised; one or more of them will usually succeed. If, when the trachea is divided, this trouble does arise, the blood may be sucked up through a soft rubber catheter, or the method followed by many and by us, of inverting and shaking the patient usually brings relief.

I have briefly made the foregoing statements that you may more readily enter into the difficulty and success attending our cases; now to the report.

Case No. 1.—About the 24th of June of last year a negro from Fitzpatrick's Station, brought his son, aged two years, to Dr. S. M. Hogan, stating that his boy had swallowed a grain of corn, which he thought had lodged in his windpipe—did not know just how the accident happened, but stated that the child, with other children, had two days before, been playing with some shelled corn, and had swallowed some. Thus the history of the case, the first and an important factor in the diagnosis, was by no means clear; the little patient himself could give us no account of the accident. There was considerable constitutional disturbance, and although we took no direct notes, I can safely state that the number of respirations were increased at least to 30 per minute, pulse rate also increased and volume considerably diminished; there was marked fever, showing a decided increase or rise of temperature. On placing the ear to the chest we could plainly hear a rough bronchial murmur, a little more to the right than the left side there was also an imperfect expansion of the chest walls at each inspiration, the respiratory murmur being accompanied by a peculiar, sharp hiss, as if the air passed through a canal narrowed in extenso. From this we believed the obstruc-

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tion to be just above the bifurcation of the trachea, impinging more upon the entrance of the right bronchia; that the offending substance was producing considerable irritation, the trachæl canal being partially clogged with mucous upward, above the foreign body, the irritation probably reaching into the right bronchia. Besides these signs all the outward symptoms of tracheal obstruction were manifest; *i. e.* decided hoarseness, patient scarcely speaking above a whisper, cough constant but weak, and accompanied with an occasional expectoration of mucous, streaked with blood, the breathing rapid and difficult, with the rattling noise indication of trachæl obstruction easily heard and distinguished; the recession of lower part of the sternum, contiguous ribs and intercostal spaces was plainly marked, showing that the lungs were imperfectly expanded, and hence the blood but poorly oxygenated. The dispnœa in this case being excessive, we decided to operate at once. Dr. S. M. Hogan, assisted by Dr. W. K. Jones and myself, performed superior tracheotomy, as already described. Using Squibb's washed ether, the patient was very quickly and completely brought under its influence, when we began the operation by an incision carried through the skin and subcutaneous tissue to the deep cervical fasciæ, the incision beginning just below the lower border of the thyroid cartilage, thence downward in the median line to the lower border of the second trachæl ring. The tissues were drawn to each side by means of hair-pins curved at the rounded extremity, the points being bent back upon the legs and tapes attached. The grooved director was thus introduced under the superficial layer of the deep cervical fascia and this layer incised, the venous plexus being pushed downward and to one side; a slight hemorrhage was checked by pressure with the sponge, after which the trachea was laid open from below upward to the cricoid cartilage, the first two trachæl rings included. The improvised hair-pin hooks were immediately inserted into the opening, one on each side and tapes temporarily tied behind the neck. The patient was at once

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inverted and given a shake or two; at the same time I stooped down to watch and examine the opening; saw that it was partially occluded with some dark colored substance; applied a pair of short forceps, drawing out a string of mucous, the next instant the grain of corn presented itself at the opening, which I extracted. On account of the abundant secretion the wound was left with the hair-pin hooks *in situ* until next day, when it was closed with a half dozen pin and figure 8 sutures, and a few adhesive strips. A compress, wet with listerine and bandages were then applied. The pins were removed on the fourth day and adhesive strips again applied. The wound healed nicely within ten days, and the patient sent home relieved. No trouble has yet supervened. The operation in itself carries no great merit, but it was our first tracheotomy here and gratifying to us because of its success. The hair-pin hooks served a good purpose, but were hard to keep in place, because of their elasticity. The trouble from hemorrhage and attendant dispnœa during the operation was slight.

Case No. 2.—The patient, a little negro boy three years old, was sent to my office August 6th from the plantation of Maj. J. L. Roberts. I called in consultation Drs. Hogan and Jones. The child's parents gave a history of the case almost identical with that of case No. 1 just reported. They had noticed the child the evening before with some corn from a roasting ear; the corn had been partially parched, and this child, with a few others, was eating it; soon afterwards he was taken with spasm of coughing and difficulty in breathing, from which the parents decided he had "gotten a grain of corn in his wind-pipe." They waited, however, until the next morning before seeking medical aid; in the meantime the child's bowels had acted, a few whole grains being noticed in the operation. You will notice at once the slight general difference in the cases—only twenty-four hours time having elapsed in this case since the occurrence or accident, while in the former forty-eight hours had passed. In both, the symptoms present were clearly de-

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fined, and certainly indicative of mechanical obstruction of the trachea. A shorter time having elapsed since the occurrence of the accident in this case, the general distress, marked by dispnœa, fever, debility, anxiety of countenance, &c., was not so great; there was a similar increase in the pulse rate, temperature and number of respirations, but on placing the ear to the chest, the sounds gleaned therefrom did not indicate such marked obstruction to the current of inspired air; the sound heard was more of a clear, hissing character, the mucous rate not so clearly defined as in the other case, while the lungs were more fully expanded, there being no discrepancy in the respiratory murmur of either side or lung. We diagnosed trachæl obstruction in the upper portion of that canal, and decided to operate at once. Using "Squibb's washed ether," again we quickly anæsthetized the patient, Dr. Hogan kindly consenting to use the knife; performed superior tracheotomy on the same method and exactly similar to that followed with the first case, the result being equally satisfactory and successful. We experienced no special difficulty, and secured the grain of corn, relieving the patient. The external wound in this case was immediately closed with a half dozen silk sutures and adhesive strips, applied a compress wet with a forty per cent. solution carbolic acid; ordered one grain doses of quinine *ter-die*, and nourishment; removed the sutures on fifth day; the wound had almost entirely healed, or united by first intention; directing the child's parents to keep up the compress and bandage a few days longer, sent the patient home. Both these patients are now healthy, having suffered no impairment and no chronic effect from the operation.

Case No. 3.—A negro boy, twelve or fourteen years old, was brought to Dr. Hogan in the early part of March of this year. Dr. Hogan having called in Drs. W. K. Jones, C. H. Franklin and myself, we gathered the following history of the case: The boy had been in the fields hunting; on returning home he found a cockleburr attached to his coat

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sleeve; endeavored to detach it with his mouth, and while in the act laughed at some of his companions, and sucked the burr down into his throat. His father stated that at the time there was a severe paroxysm of coughing, some blood being coughed up. When brought to Dr. Hogan's office there was no cough, only a slight dispnœa, very little constitutional disturbance, pulse slightly increased in frequency, temperature normal, respiration regular and performed with but slight difficulty, deglutition painful and voice altered to a whisper. On placing the stethoscope to the chest and over the trachea, we could hear a distinct rough sound, which, on a similar examination of the larynx, we found to emanate therefrom. Just over the right vestibule of the larynx we could plainly hear a rough, grating whirr, as of air meeting and passing over some rough, hard body; all other examinations of throat revealed nothing, so we diagnosed the right vestibule as the seat of obstruction. The patient's symptoms were not urgent; we decided to wait and watch developments. On examination next day we found patient slightly worse; his father stating that during sleep there appeared to be some difficulty in breathing, accompanied by a rattling noise in the throat; there was greater difficulty in swallowing, pulse slightly increased, with tendency to fever, stethoscope revealing the same conditions otherwise. The symptoms were still not very urgent, so decided to wait, hoping that nature might in some way get rid of the obstruction. Examining the patient again next day, found the dispnœa, difficulty in swallowing, and fever increasing, we decided to operate, agreeing upon laryngotomy, as the operation needed and attended with less risk; that is, laryngotomy by median section, through the crico-thyroid membrane, deciding if necessary, also, to incise the cricoid cartilage, and thus convert the operation into laryngo-tracheotomy. After some time and trouble, the patient being nauseated, we succeeded in producing complete anæsthesia, using for that purpose a mixture of chloroform and ether, one to three. Dr. Hogan then made

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an incision, beginning at the lower border of the thyroid cartilage, through the integment, extending downward in the median line one and a half inches; the fasciæ was then divided on a director, a rather large vein lying diagonally across the median line was ligated, and the incision carried through the tissues down to the crico-thyroid membrane. At this point we stopped and carefully checked all hemorrhage by tortion and pressure with sponge. The incision was then carried through the membrane and larynx opened. There was a gush of dark venous or congested blood through the opening, continuing for some seconds, threatening suffocation and compelling us to invert the patient several times. We expected to meet with the superior thyroid artery, but it did not fall within the line of incision, either from malposition or being drawn aside by the retractors we used. These were improvised by Dr. Hogan, made of brass wire one-sixteenth of an inch thick, four or five inches long, with handles and curved blount points. The opening not being sufficient, the cricoid cartilage was incised, thus making one fully one and a half inches long. I could then see and feel with probe the cockleburr lying to the right side of larynx one-half or three-quarters of an inch inward from the external opening. Dr. Hogan also saw and felt it with probe. I applied a pair of forceps with straight narrow blades, for the purpose of withdrawing it; just as I fastened them, the patient struggled and gagged violently, the forceps slipped, the burr being drawn upward, backward and swallowed. This we felt certain of, as Dr. Hogan immediately passed an index finger into the larynx, thus preventing any possibility of the burr being drawn into the trachea with his finger; he also searched every portion of the larynx, reaching back to the pharynx, but could not discover the burr. I also did the same with a like result. We cautioned the child's father to save and watch every action from the patient's bowels. The burr was passed with the first action early the next morning, and secured by Dr. Hogan. We left wound open, closing it next day with pins,

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adhesive strips, applied listerine compress and bandage, ordering two grain doses of quinine *ter-die.* We removed the pins on the fifth day; the wound had failed to unite by the first intention; there was some discharge going on through opening in larynx; applied adhesive strips for a few days, when the wound healed and the patient sent home relieved of his danger. There was, and is still some impairment of voice, otherwise the patient is all right. I present these cases because of their proximity of occurrence, all having come up within one year, and because of the gratifying success attending our first attempts to perform these operations. In my description of the different operations upon the air passages and my report of the three cases, I have followed the lead of Morrell McKenzie, whose special work on the larynx, pharynx, and trachea will repay reading. I dare hope my paper will command a small share of interest for the Association, and that readers of the Transactions may, in a measure, be encouraged to act promptly under similar circumstances. The operations, as described in our text books, read nicely, appear easy and bloodless, but with patient threatened throughout the operation with impending suffocation, and life placed thus at your hands, it will be no small matter to waive the efforts of nature and decide for him, by giving him the benefit of tracheotomy, laryngotomy, or laryngo-tracheotomy.

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The next Annual Meeting of the Medical Association of the State of Alabama, will be held in the city of Greenville on the second Tuesday in April, 1885, at 12 o'clock noon, and continuing four days.

Each county is entitled to send TWO Delegates. The assessment upon the County Societies is ONE DOLLAR for each member, exclusive of Counsellors and Delegates, the former of whom pay the ONE FEE of TEN DOLLARS and the latter FIVE DOLLARS. Further particulars will be found in the Annual Circular Letter of the Secretary, to be issued March 1st, 1885.

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